THE
MADRAS MINING MANUAL

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Map showing the chief mineral deposits of the Madras Presidency. (in pocket).

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PART A.—MINERAL RESOURCES.

CHAPTER I.—PRELIMINARY SKETCH OF THE GEOLOGY OF MADRAS.*

General.

The geological keynote to the peninsular portion of India and more especially to the southern portion of it forming the Madras Presidency is antiquity. This applies not only to the great majority of the rocks but also to the position of those rocks with regard to sea-level. With the exception of small coastal strips Madras has yielded not a single definitely recognizable marine fossil. Land it is, and land it has been, for aught that is known to the contrary, since the dawn of organic life and almost certainly since the first appearance of living organisms with hard skeletal structures. Compared with the topography of Madras the Himalayan range is a mere infant.

The rocks of the Presidency consist for the most part of members of one system, the Archæan, including schists, gneisses, granites and other crystalline and metamorphic types. These ancient rocks are exposed over the greater part of the Madras uplands and upon their denuded edges rest the few patches of younger strata including the basin of Cuddapah and Kurnool sediments of Purana age, the still younger Lower Gondwana beds of the Godavari basin which terminates on the Madras coast beneath alluvial deposits, interrupted exposure of the Upper Gondwana and Cretaceous systems fringing the Coromandel Coast and coastal strips of Tertiary, Pleistocene and Recent alluvial deposits.

Archæan.

Speaking broadly, the schists of the Archæan system have been separated from the rest to form a group known as the Dharwar series which was formerly regarded as largely of sedimentary origin. It was originally supposed that the Archæan gneisses, such as those which are prominent in the plateaux of Coimbatore, in Vizagapatam, Bellary, Malabar and many other localities formed the sea-floor upon which the Dharwar sediments which include strata

* By Dr. E. H. Pascoe, Director, and Mr. G. V. Hobson, Assistant Superintendent, Geological Survey of India.

of conglomeratic appearance, were deposited. During the past fifteen or twenty years opinion has been steadily changing, largely owing to the excellent and detailed work of the Mysore Geological department, and the view held by most geologists at the present day is that the gneiss, or at any rate those portions of it in contact with the Dharwars, are younger in age and have been intruded into the latter series. The so-called "conglomerates" or, at any rate, the majority of them, are now thought to be "crush" deposits produced by the grinding effect of subsequent earth movements and not by attrition under water. The Dharwars, whether sedimentary or volcanic or intrusive in nature, must have been laid down upon a floor or intruded into a crust of some sort, but it has so far not been possible to recognize with any certainty any part of that primeval floor or crust. Unless further investigations produce fresh clues, therefore, it is not possible to pick out any particular strata as being indubitably older than the Dharwar rocks.

The pre-Cambrian strata of India show a remarkable parallelism to those of Canada. As Dr. Smeeth has pointed out, according to the above scheme the Indian Dharwars would correspond to the Keewatin series of Canada, and the gneisses and granites to the Laurentian and possibly also the Algonkian formations of North America, the Huronian of the latter not being represented in India.

The Dharwar rocks of Southern India consist of two principal types : hornblende schists and chlorite schists. The latter are more usually found lying upon the former, but there are many cases in which the hornblende schists appear to have been intruded amongst the chlorite schists, so that the respective ages of the two stages is not clear. Both the above types of Dharwar rocks seem to be the result of the metamorphism of basic igneous rocks. The system includes phyllites, quartzites and other types which have the appearance of metamorphosed sediments.

The Dharwar rocks of Madras and Mysore are found in long narrow outcrops trending more or less north-west to south-east and usually bent in the form of a simple or complex syncline lying in the gneiss. These synclines are obviously the merest remnants of a very important and extensive rock system which must have covered practically the whole of Madras. The greater bulk of

this system has been removed by countless ages of denudation, and what little remains is probably due to the burial of the area subsequently beneath the waters and sediments of the Purana epoch. The most extensive relics of these ancient rocks are found in Mysore. Others occur in Bellary, Anantapur, Cuddapah and North Salem; while still smaller patches have been identified in the Wynad and in Coimbatore.

The Archæan gneisses are of various types and predominate in the plateaux of Coimbatore, in Malabar, Vizagapatam and Bellary. The Bellary gneiss is looked upon as the equivalent of the granitoid gneisses of Mysore and resembles the Bundelkhand gneiss of Central India. Gneiss of Archæan age is found in the central and western taluks of North Arcot, in the Baramahal division of Salem (Hosur Gneiss), in the centre of Kistna, in the south-west of Nellore, in the south-east of North Arcot, in the centre of South Arcot, in the south of Trichinopoly, in Pudukkottai State, in that part of Madura north of the Vaigai river, and in south-western Tinnevelly.

The Charnockites

The best known of the Archæan plutonic rocks are those of the Charnockite series, the members of which vary from a hypersthene-granulite (true "charnockite") to pyroxenites. These rocks constitute the chief mountain ranges of the Presidency forming in addition to St. Thomas' Mount near Madras, the well-marked, rugged masses of the Nilgiri, Shevaroy and Palni Hills; they occur in bands in Coimbatore, Salem and Vizagapatam as well as in Ganjam, South Arcot and the Wynad. Rocks of the Charnockite series in the neighbourhood of Palakod in Salem carry corundum crystals formed as a contact mineral.

The Archæan schists and gneisses are the repository of numerous deposits of iron ore and evidences of the native smelting of iron are widespread throughout the Presidency. The celebrated "wootz" steel of Trichinopoly was produced in sealed clay crucibles by the carburisation of wrought iron by means of charred rice-husk mixed with wood and leaves of certain trees and shrubs. The native product has been displaced by the better and cheaper imported material and attempts to work the deposits on a large scale have, up to the present, not been very successful. The enormous iron ore deposits of

Kanjamalai and the Javadi Hills may be mentioned among others. Iron works were established on a large scale at Porto Novo in South Arcot in 1830 but had to be closed down in 1867. In 1853 a blast furnace was erected at Palampatti, on the Cauvery, to smelt the Kanjamalai ores but was later closed down. A project is now on foot to utilize the Kanjamalai ore in a new smelting process.

Steatite is a common accessory in some places and is utilized for domestic articles such as plates and bowls and for ornamental work, the latter particularly south-west of Bellary. Cooking utensils of this stone are particularly prized by Brahmans since any pollution can be easily removed by the action of fire.

The Dharwar system from an economic point of view is the most important section of the ancient rocks. It is in the rocks of this system that the Mysore gold deposits of Kolar occur; gold-bearing quartz veins have also been located in the Dharwar schists of the Anantapur district. Important iron ore deposits are also located in the Dharwars; among these mention may be made of the rich hæmatite bed in the Sandur Hills, which are built up of the most important of the four belts of Dharwar rocks in the Bellary district.

Eparchæan interval.

The next oldest rocks we find in Southern India belong to the Purana system. Although this system is also of great antiquity and so far as we know, either preceded or dates from the advent of skeleton-bearing forms of life, there intervened between the deposition of its rocks and the formation of the Archæans an interval so stupendous as to dwarf the gamut of geological systems from the Cambrian to the present day. During this Eparchæan interval the Dharwar lavas and sediments were folded into great mountain ranges which were worn down through countless ages to a base level of erosion and finally submerged beneath the water of the Purana sea.

Igneous intrusives

About the time of the Eparchæan interval plutonic intrusions resulted in certain interesting rock types. Among these the mica-bearing pegmatites of the Nellore district are of considerable importance. Other pegmatites have yielded aquamarine crystals as in Coimbatore and yet others near Sivamalai have yielded crystals of corundum.

Dykes of various descriptions are common in certain parts of the Presidency, particularly in North and South Arcot and Salem. Examples of dunite or olivine chromite rock occur, the principal occurrence being in the Chalk Hills near Salem where chromite is worked. These hills derive their name from the general effect of the network of white magnesite veins which are prominent over an area of about 4½ square miles.

Purana system.

The Cuddapah and Kurnool sediments, as we have seen, were laid down upon the upturned and denuded edges of the Archæans. All that we know unquestionably of their age is the fact that they are considerably older than the Permian, but in view of the fact that low down in the upper Vindhyan beds of Central India, which probably correspond more or less closely with the Kurnools, there have been recently discovered discinoid impressions which are regarded as true brachiopod remains resembling Cambrian forms of *Acrothele*, it seems logical to suggest that the Kurnool beds are early Palæozoic deposits and the Cuddapahs perhaps pre-Cambrian. Both Cuddapahs and Kurnools have been assigned to the Purana system.

The Cuddapahs and Kurnools are developed in the districts of those names. The rocks occur as a great crescent-shaped, isolated basin, 200 miles long by 100 wide at the widest part. The more gently inclined strata give rise to parallel scarps, ridges, and flat-topped plateau-like hills, which distinguish the area from the surrounding lowlands and the rugged uplands of Archæan origin.

The Cuddapah series consists mainly of slates and quartzites and has been divided up into four stages with an aggregate thickness of 20,000 feet. More than a third of the area is covered by the overlying Kurnool series which occupies all the low ground of the Kundair Valley in the middle of the basin and another large area in the Palnad. The Kurnools unconformably overlie the Cuddapahs and are also divided into four stages but with an aggregate thickness of only 1,200 feet, consisting of limestone with some shales and sandstones. The Banganapalle stage, the lowest member, is distinguished by the occurrence in it of diamonds for which numerous old workings are known.

The succeeding rock system, the characteristically Indian fresh-water deposits of the Gondwanas, contains the oldest known fossiliferous beds in the Presidency. The south-eastern extremity of one shallow trough of Gondwanas stretches into the Presidency forming an outcrop of coarse, pale, felspathic sandstones, with coaly seams, on the left bank of the Godavari river some 30 to 40 miles west-north-west of Rajahmundry and constituting the Bedadanol coalfield.

Lower Gondwanas.

The Upper Gondwanas are represented by a broken belt of outliers never exceeding a breadth of 15 miles, running down the east coast of the Presidency. Small outcrops occur as far south as the Trichinopoly district and there are several occurrences west of Madras town; the chief belt lies in the Guntur and Kistna districts. The rocks are mainly sandstones with some shales in the lower parts. Although of such small extent, the uppermost strata of this division are of extreme interest in that they contain one or two Jurassic ammonites identical with species from Cutch, Madagascar and South Africa.

Upper Gondwana.

Overlying the Upper Gondwanas, on the east, in the Trichinopoly district are Cretaceous beds which are richly fossiliferous. These are the result of marine transgression during Cenomanian times, and, as is normal with such deposits, dip slightly towards the sea, i.e., to the east. The fossils show close affinities with those of the Shillong plateau of Assam on the one side and Madagascar and South Africa on the other. These relationships point to a continuous coast-line from Assam to Madagascar. The resemblances to the Cretaceous fauna of Cutch on the contrary, are few and distant, from which it is inferred that any sea-connection between East and West India in Cretaceous times could only have been of a very indirect nature. A shelly limestone in the Trichinopoly Cretaceous beds has compacted into a hard, fine-grained, beautiful translucent rock which makes a good ornamental stone under the name of Trichinopoly marble.

Cretaceous.

On the East Coast from Rajahmundry to the Tinnevelly district there occur patches of soft sandstone and grit known as the

Cuddalore sandstone.

Cuddalore sandstone; these beds are not older than Upper Tertiary and are more probably referable to the Pleistocene. Similar beds known as the Warkalli beds occurring on the West Coast near Quilon contain lignites and Tertiary fossils identical with, or closely resembling, forms found in the Tertiary of Sind and Cutch. This occurrence is of extreme interest in giving us an approximate date for the breaking up of this part of the great Gondwana continent and the formation of the west coast of India. It tells us that a vast mass of the continent broke off from peninsular India and became submerged beneath the waters of the Indian Ocean at some time during the first half of the Tertiary era.

Laterite.

The formation known as laterite, which is peculiar to tropical parts of the Old World, occurs all along the coast regions of the Presidency where it is known as "low-level laterite." High-level laterite occurs on some of the inland plateaux, especially in the neighbourhood of Bellary and Cuddapah; it is also found in the Vizagapatam Agency and to a modified extent in the Nilgiri and Palni Hills.

Normal laterite is a porous argillaceous rock much impregnated with iron and mottled with various tints of brown, red, and yellow. Some varieties are sufficiently rich in iron to constitute an ore of that metal whilst others have so large a percentage of hydroxide of alumina as to merit the name of bauxite; the latter variety, however, has not, so far, been found in the Presidency. Laterite has the peculiar property of hardening on exposure to the atmosphere and thus makes a useful building stone.

River deposits.

The Recent deposits of Madras include the old alluvium of such rivers as the Godavari, Kistna, Cauvery, etc., the coast and deltaic alluvium, the younger alluvium of the present river-beds, the coastal mud-banks, and the peat deposits on plateaux such as the Nilgiris.

CHAPTER II.—MINERAL DEPOSITS.

The *Bibliography of the Geology of India* by Mr. T. D. LaTouche (1917-18), recently published by the Geological Survey of India, embodies all information available with regard to the minerals of economic value found in India; every recorded occurrence is included, whether of proved commercial value or not, and complete references are given to all published literature on the subject. The following notes,* which do not pretend to be exhaustive, have been compiled almost entirely from Mr. LaTouche's work, to which the reader is referred for full and detailed information. References to the more important occurrences will be found in the quinquennial reviews of the mineral production of India, published in the records of the Geological Survey :—

Barytes.—This mineral occurs in the districts of Kurnool, Nellore and Salem, and is worked near Betamcherla in the first-named district. In the year 1918 the output was 2,724 tons, valued at Rs. 44,215, but in 1925 it had sunk to 580 tons. In Nellore, the occurrence is said to consist of irregular veins near the village of Naravada. In Salem, quartz-barytes rock, of which nearly 31 per cent is barytes, is found at Alangayam.

Bauxite.—Except in the Vizagapatam hill tracts, bauxite is not known to occur in any appreciable quantity in the Madras Presidency. The occurrence of gibbsite in the Palni hills was recorded some years ago, but, in spite of subsequent careful search, no further material could be discovered, and the original specimens, which were said to have come from Kodaikanal and Fort Hamilton, are regarded as merely sporadic. At Girliguma in Vizagapatam, the laterite is in part a somewhat inferior variety of bauxite. Aluminous laterite is also found at Ootacamund, but the percentage of alumina is low, ranging only from 31 to 39 per cent with an equal quantity of oxide of iron.

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* By Sir H. H. Hayden, Director, Geological Survey of India; brought up to date by his successor Dr. E. H. Pascoe. The Kolar mines lie in Mysore which has a separate administration and mining rules of its own, and is outside the scope of the present article. Information with regard to that State will be found in Bulletin No. 7 of the Department of Mines and Geology, Mysore State, 1916.

Building materials.—Building stones of excellent quality are widely distributed. The Archæan rocks include numerous granitic and gneissose forms, amongst which charnockite occupies an important place; that rock forms all the chief mountain ranges, and occurs at many places in the plains; it has long been quarried at St. Thomas' Mount and elsewhere in the neighbourhood of Madras. The Archæan rocks also comprise marble, while the limestones and sandstones of the Cuddapah and Kurnool systems furnish both useful and ornamental stones. Laterite is widely distributed, and is one of the most important building stones in the Presidency; more than 93,000 tons were quarried in 1925.

Lime is derived from the various limestones already referred to and also to a very large extent from kankar.

Chromite.—Chromite is not known to occur in commercial quantities; it is found in irregular veins in the magnesite of the Chalk hills, and at the foot of Kanjamalai in Salem.

Coal.—In spite of alleged discoveries of coal, which have been reported from time to time, this mineral has not yet been found in workable form in the Madras Presidency. (See, however, *Lignite.*) Rocks belonging to the Barakar series, the main coal-bearing formation of the Gondwana system, occur at various localities in the lower Godavari valley; no coal is exposed at the surface, but a few thin seams of inferior quality were found in a boring at Beddadanol.

Cobalt.—Traces of cobalt have been found together with traces of nickel in pyrrhotite in the Tovala taluk of Travancore. The occurrence has not yet been proved to be of economic importance.

Columbite.—(See Tantalite.)

Copper.—Traces of various ores of copper have been found at several places, but only three localities appear to be of any importance. In Coimbatore, a quartz-reef, formerly worked for gold at Hadabanatta, contains copper pyrites, malachite and bornite. Average samples of the reef taken from near the surface yielded about 3 per cent of copper. Copper is said to have been mined and bell-metal manufactured in former times near Gani in Kurnool district. There are also extensive old workings in Nellore near Garimanipenta. In the extensive literature on the subject of the Nellore mines,

the so-called samples are said to have yielded from about 30 to 60 per cent of copper. It is probable that these were hand specimens rather than true samples. The locality, however, would seem to be worth further investigation.

Corundum.—This mineral is widely distributed over the Madras Presidency, and usually occurs as a primary constituent of certain basic rocks which contain also pyroxene and spinel. Being highly resistant to weathering agents, it is found scattered over the surface and embedded in the soil resulting from the decomposition of the rocks in which it occurs. The more important localities at which it is found are in the Anantapur, Dharmavaram and Kalyandrug taluks of the Anantapur district, at Karutapalaiyam and several other places in Coimbatore. In Salem district also it occurs at numerous localities, at one of which (Paparapatti) it occurs in felspar lenticles in charnockite, the proportion of corundum to matrix being sometimes as much as 3.5 per cent. It also occurs in considerable quantity at Sittampundi in the same district, where it is occasionally of a red colour passing into ruby. Corundum is also found at a number of localities in South Kanara, the only district in which it has recently been worked; the output in the year 1911 rose to about 175 tons valued at £1,660, but fell rapidly from 1914 and during the war amounted to one or two tons only; in 1918 it ceased altogether. The production reported from the Khasi Hills in Assam during the last-mentioned year was nearly 1,900 tons, but an appreciable proportion of this appears to have been sillimanite. The Madras corundum does not seem to have received at the hands of the commercial community the attention it deserves.

Fuller's earth.—Fuller's earth figures in the returns for mineral production of the Madras Presidency in the year 1911 and 1912, outputs of 30 and 52 tons respectively being recorded from the Anantapur district. No particulars, however, are available, and no further output has since been recorded.

Gem-stones—(*a*) *Beryl.*—This mineral is found in the mica-bearing pegmatites of Nellore and at Padyur in Coimbatore. At the former locality it is of no value, but at the latter the transparent variety (aquamarine) was found and mining operations were actually carried on during the early part of the nineteenth century.

(*b*) *Chrysoberyl* has been found in corundum-bearing felspar veins near Kangayam in Coimbatore district. The crystals, however, are highly flawed to be used as gems.

(*c*) *Diamond.*—Old diamond-workings are known at many places in the Madras Presidency, chiefly in the districts of Cuddapah, Guntur, Kistna and Kurnool. In most cases, the stones are found in alluvium, but at Banganapalle in Kurnool they occur in shaly breccia and conglomerate, or pebbly clay, from six to eight inches in thickness found at the base of the Kurnool series. Stones are still found from time to time in various parts of the Presidency and a certain amount of prospecting has been undertaken in recent years, but no mines are now in operation. Although no official returns are available, private but unconfirmed reports indicate that every year a certain number of valuable diamonds are picked up after showers of rain in the neighbourhood of Wajra Karur in the Anantapur district. One was recently found in a field north of the pipe, calculated to be of sufficient size to yield a table diamond of sixty carats worth about a lakh of rupees. Full information as to the numerous localities at which diamonds have been worked at one time or another will be found in the *Bibliography of Indian Geology*.

(*d*) *Garnets* are common in the Archæan rocks throughout the Presidency, but they are chiefly of use for abrasive purposes and are rarely sufficiently transparent to be used as gems. The chief localities from which stones of the latter quality have been recorded are Kondapalli in Kistna district, Sankaridrug in Salem, Mel Amathur in Tinnevelly, and the sands of the beach on the Travancore coast; stones from the last locality, although of small size, are very plentiful and of a rich colour. Large quantities of garnet sand suitable for abrasive purposes used to be obtained from Tinnevelly district, which in 1914 produced about 1,000 tons.

(*e*) *Iolite* (cordierite) has been recorded from Thiruvella in Travancore and from the Kadavur zamindari in Trichinopoly district.

(*f*) *Rock-crystal* is found in the beds of streams traversing the Cuddalore sandstone, at Vallam in Tanjore district, and furnishes the raw material for the so-called "Vallam Diamonds". It is associated with cairngorm.

Rock-crystal is also recorded from the Godavari river near Rajahmundry, and rose-quartz is found at Kodur and Sandanandapuram in Vizagapatam district.

(*g*) *Zircon*, but not usually sufficiently transparent for use as a gem, is found at Kangayam in Coimbatore, and in the monazite sands of the Travancore coast.

Gold.—Although gold is found in several places in the Madras Presidency, the only mines worked at present are those at Ramagiri in the Anantapur district, where gold-bearing quartz reefs are found in the Dharwar schists. In 1902 a belt of gold-bearing quartz veins was discovered in the Anantapur district and some old gold workings found near the village of Ramagiri. Vigorous development work resulted in a production of 2,532 oz. in 1910, which steadily increased during the following years to a maximum annual output of nearly 24,000 oz. in 1915. Since then a decline set in and, after a fleeting recovery during 1924, operations ceased in 1925 but were resumed again the following year. Reefs occur also in Coimbatore and the Nilgiri districts; in the former, old workings have been examined at four localities, but the gold contents of the reefs investigated were in all cases low. The quartz reefs of south-east Wynad in the Nilgiri district have received a considerable amount of attention from time to time and were responsible for a boom in the year 1880, when over £4,000,000 were spent on them, with a return of only about 630 oz. of gold. The gold occurs with iron pyrites in small local segregations, which may be extremely rich. For the greater part, however, the reefs are poor, and the results of careful sampling of two of the mines in the year 1900 gave an average assay value of only 1·6 dwt. per ton (based on 174 samples) in the one case and 2 dwt. to the ton (based on 93 samples) in another. There is little doubt, therefore, that the Wynad reefs constitute very low-grade propositions.

Alluvial gold has also been worked in the streams in Nilambur at the foot of the ghats below Wynad. Attempts have been made on a larger scale to work this area, but without success. The possibility of profitable exploitation, however, has not yet been definitely disproved. The occurrence of alluvial gold has also been recorded, apparently only in small quantities, in the Bellary and Madura districts.

Graphite.—Some years ago, graphite formed the basis of a thriving mining industry in Travancore. Economic conditions, however, finally brought about its extinction, and no graphite is now won in the Madras Presidency. The mineral has also been recorded from Godavari, Kistna and Tinnevelly districts, but the occurrences do not appear to be of any economic importance. It is found in the extreme north of the Presidency, in the Vizagapatam hill tracts, but has not yet been exploited, although it has been successfully worked in a neighbouring State in the Central Provinces. Since 1922 graphite has ceased to be produced in India.

Iron.—As in other parts of India, iron was at one time manufactured at a large number of places in the Presidency, the ores employed being usually either the magnetite sands derived from the stream-beds or hæmatite and limonite obtained from laterite. Hæmatite is also found in the beds of the Dharwar and Cuddapah systems. Attempts were made in the early parts of last century to establish works on European lines in South Arcot, in Malabar and in Salem, but none of these met with success. In recent years attention has again been drawn to the Salem ores: the hill Kanjamalai contains a very large quantity of magnetite, but investigations tend to show that the ore as a whole is poor, containing usually less than 40 per cent iron. It might be possible to exploit it successfully by means of magnetic separation, especially if it prove possible to smelt it with powdered non-coking coal from a not too distant colliery, such as that of Singareni in Hyderabad.

The literature on iron in the Madras Presidency is extremely voluminous; full references will be found in the article on Iron in the *Bibliography of Indian Geology*.

Kankar.—See Building materials.

Kaolin.—The gneisses and granites of the Archæan group are known to yield kaolin at several places in the Presidency, but this has not definitely been proved to be of economic value. Considerable quantities arise from the decomposition of the felspar in the mica-bearing pegmatites of south-east Wynad (see under *Mica*). The inaccessibility of this area, however, renders it of no economic importance at present. White clays which have been used for pottery, are found at various localities in the Chingleput district, some being derived from beds of Upper Gondwana age. Prepared white kaolin from

North Arcot district has been reported as suitable for the manufacture of good quality earthenware or porcelain. The Cretaceous beds of Trichinopoly district are also said to yield fine clay well adapted for the manufacture of pottery, while kaolin of good quality has also been recorded from the alluvium of the Godavari near Rajahmundry.

Lignite.—Lignite has been found on the West Coast at Bepur, Cannanore and Warkalli. The Warkalli beds, which are regarded as of Tertiary age, consist of brightly coloured sands and clays with bands of lignite containing large quantities of fossil resin and iron pyrites. The Warkalli beds have recently been examined by the State geologists of Travancore, and are estimated to cover an area of 41 square miles and to contain 276 million tons of lignite.

Lithographic stone.—Limestone suitable for this purpose is found among the beds of the Kurnool series in the districts of Kurnool, Guntur and Kistna. The demand for lithographic stone, however, is now much smaller than it used to be, lithographic reproduction having been to a great extent replaced by photographic process.

Magnesite.—The largest deposit of magnesite known in India is found in the Chalk Hills in Salem district. The material is of excellent quality, but lack of fuel with which to burn it has always been a serious impediment to the industry. During the war, there was a considerable demand for Salem magnesite for export to England. The output rose to 18,000 tons in 1917, but fell again to about 6,000 in the following year. Since 1918 the industry recovered rapidly and is now in a very flourishing condition, the output for 1925 having been 29,620 tons valued at Rs. 4,14,680. Large quantities of inferior magnesite are also said to occur with steatite at Maddavaram near Betamcherla in Kurnool district. The mineral has been recorded, but not in large quantity, from Bellary district and Coorg. It is also said to occur with brucite near Musiri in Trichinopoly district.

Manganese.—The only areas in which manganese-ore has been found in any appreciable quantity in the Presidency are the Sandur Hills in Sandur State, and at Kodur and other places in that neighbourhood in Vizagapatam. The quantity of ore available in the Sandur

Hills has been roughly estimated at about ten million tons. The mines were worked by the General Sandur Mining Company, Limited, before the war, the output being nearly 70,000 tons in 1909 with an annual average of nearly 67,000 tons during the five years 1909—13. The output fell to about half this quantity in 1914, and ceased between that year and 1921. Operations were resumed in 1921 and the production from the Sandur State in 1925 amounted to 52,576 tons, valued at £107,343 f.o.b. at Indian ports. The ores are said to be, as a rule, not of high grade, though the proportion of silica and phosphorous is low. An average analysis from four samples showed a manganese content of just over 45 per cent. The chief localities in Vizagapatam district are Kodur, where a manganiferous belt, about three miles long, has been worked at intervals, and Garbham, where the ore-body is one of the largest known in India. The Kodur ore is of better quality than that of Garbham, and contains as much as 47 per cent of manganese. The quarries have yielded over 400,000 tons of ore. The Garbham ore is usually of third-grade quality and often highly ferruginous. The annual average output from the latter deposit between 1896 and 1913 was a little under 40,000 tons but the total quantity derived from this deposit since 1896 is more than 830,000 tons; owing to the low grade of the ore, operations were closed down during the war. Manganese-ore has been recorded from a great many other localities in Vizagapatam district; these will be found quoted in the *Bibliography of Indian Geology*. Other districts in the Presidency from which occurrences of manganese-ores have been recorded are Chingleput, Coimbatore, Ganjam, Kurnool, Madura, Nellore and the Nilgiris. None of these occurrences, however, appears to be of economic importance.

Mica.—The most important occurrence of mica in the Presidency is that of Nellore, where certain mines, such as Inikurti, have yielded very large quantities of valuable material. A special article on Nellore mica will be found on page 21. Owing to unscientific methods of working, the industry is capricious in its output; with more up-to-date mining methods, it should show more stability. In the year 1906, the output was over 24,000 cwt. In 1913, it was under 11,000 cwt.; there was a marked recovery in 1916 to nearly 15,700 cwt., but in 1918 it fell again to a little over 6,500 cwt. The average annual production from 1918 to 1925 inclusive exceeded 8,000

cwt., and the industry is showing signs of improvement. The mica, which belongs to the variety known as muscovite, occurs in sheets and lenses of coarse pegmatite traversing gneisses and schists. It is almost always green in colour and, although inferior for certain purposes to ruby mica, is still of high quality. A certain amount of ruby mica also occurs, but this is rare. The size of the 'books' found in this area is extraordinary, having amounted occasionally to as much as 10 feet across the basal planes to 15 feet across the folia. Rectangular sheets, perfectly free from cracks and flaws, have frequently been obtained measuring 30 inches by 24 inches. Much of the mica-bearing country is covered by sub-Recent and Recent deposits, such as laterite and alluvium, and many of the pegmatite veins must therefore still be undiscovered.

Mica-bearing pegmatites also occur in south-east and south Wynad. At Charambadi ruby muscovite of good quality was found in crystals up to two feet in diameter. The mica usually occurs in the centre of the pegmatite veins with dyke-like masses of quartz on one side and almost quartz-free felspar on the other. The felspar is often found completely decomposed into kaolin (q.v.). No mining is now carried on in these pegmatites.

Mica mines have been worked in Travancore, where an amber-coloured phologopite is found in the Eraniel taluk. The industry, however, is not yet firmly established.

Muscovite has also been found in pegmatite in Coorg, in Ganjam, in Salem and in Vizagapatam districts, but operations have never extended beyond the preliminary stages of prospecting.

Molybdenite.—Molybdenite, the sulphide of molybdenum, which is used, like tungsten, in the manufacture of tool-steel, has been found comparatively recently at two localities in the Presidency. A small, though locally rich, occurrence was met with in a well which was being sunk at Kunnavaram in Godavari district. The mineral was found in considerable quantity in pegmatite, but further search in the neighbourhood indicated that the occurrence was merely sporadic. A somewhat similar occurrence was found in 1916 by Mr. R. H. A. Johnston, Assistant Director, Madras Surveys, in Madura district. The molybdenite occurs in granite in Rattiambadi Mitta

at a short distance to the east of the village of Karadikuttam. Prospecting operations, however, indicated that the occurrence was of no economic value (Rec., G.S.I., XLVIII, page 14; XLIX, page 15).

Monazite.—Monazite, which is a phosphate of the rare earths cerium and lanthanum, owes its economic value to the fact that it contains also a certain percentage of thoria and constitutes the raw material for the production of thorium nitrate, which is used in the manufacture of gas mantles. Until quite recently the world's supply of monazite was derived from sands in Brazil; but the discovery of similar sands on the coasts of Travancore and Cochin enabled India to enter the market and to create an industry worth over £60,000 in 1919. Unfortunately it subsequently declined, and after a spasmodic recovery in 1924 is now practically dead. The monazite, which is derived from the gneisses of the Travancore hills, is one of the constituents of the sands along the sea-shore, and in certain places selective action by the waves has led to the local concentration of large quantities of monazite; the sand is again further concentrated by artificial means.

Monazite occurs also to the east of Cape Comorin, in the Tinnevelly district, and again near Waltair in Vizagapatam.

Nickel.—Traces of nickel have been found, together with traces of cobalt in pyrrhotite in the Tovala taluk of Travancore. The occurrence has not yet been proved to be of economic importance.

Ochre.—Ochres, both yellow and red, are known to occur at various places in the Presidency. A bed of yellow ochre, 2 feet thick, is said to occur near Tilaveram in North Arcot, while a smaller bed, occurring among the Cuddalore sandstones at Tiruvandipuram in South Arcot, is said to have been used as a pigment. In Bellary district large quantities of earthy red hæmatite suitable for paint manufacture occur along the western flanks of the Ramandrug section of the Sandur Hills. Red ferruginous clays occur at Ootacamund in the Nilgiri district, while some of the highly coloured clays occurring in the Cretaceous beds in Trichinopoly district might possibly also be used as pigments. The reported annual production of ochre in the Presidency is small and seldom exceeds 400 tons.

Peat.—Numerous peat-bogs occur in the Nilgiri, Palni and other hill ranges at elevations of over 6,000

feet. The deposits are said to be in places as much as 30 feet deep, but no serious steps seem to have been taken to investigate their possibilities. An elaborate report on the feasibility of using Nilgiri peat in its condensed form as fuel for Indian Railways was drawn up by Wragge in 1871 (Jour. Soc. Arts, XIX, 201).

Phosphates.—Phosphatic nodules containing from 56 to 59 per cent of phosphate of lime with about 16 per cent of carbonate are found in considerable quantities in a bed of shale in the Cretaceous rocks near Valudayur in Pondicherry. It has been estimated that within a depth of 200 feet the bed contains eight million tons of nodules, but their distribution is irregular, varying between 27 and 47 lb. per 100 cubic feet in excavations and 70 lb. per 100 cubic feet in shallow workings. The high percentage of carbonate of lime in the nodules is said to preclude the possibility of their being used profitably for the manufacture of super-phosphates. They have been ground and used, raw, but no development of the deposits on a large scale has yet taken place.

Phosphate of lime in the form of apatite occurs in large quantities in the mica-bearing pegmatites of Nellore, and again in the rocks of the Kodurite series at the manganese mines in Vizagapatam. No attempt appears to have been made to ascertain whether the apatite could be collected sufficiently cheaply at either place to form the basis of a profitable super-phosphate industry.

Samarskite.—The rare mineral samarskite, which is a complex niobate and tantalate of uranium, yttrium, iron, etc., has been found at the Sankara mica mine in Nellore. It is strongly radio-active, and there has been some demand for it for this reason. The total quantity found, however, has amounted only to a few tons. One and a half cwt., valued at Rs. 67, was produced in the year 1918, 2½ cwt. valued at Rs. 101 in 1919 and 3 cwt. valued at Rs. 120 in 1920; since then no further output has been recorded.

Silver.—Small quantities of silver are won in the course of the gold-mining operations at the Anantapur mines. The amount varies of course with the state of the gold-mining industry; in the year 1918 it was 1,169 oz., in 1925 only 21 oz.

Steatite.—This mineral, also known as soapstone and potstone—the latter, however, being often a different and inferior material—is widely distributed throughout the Presidency and has been recorded from the districts of Anantapur, North Arcot, Bellary, Coimbatore, Kurnool, Nellore, Salem, South Kanara, Trichinopoly and Vizagapatam. It has long been worked in many places for the manufacture of pots, plates, images, etc. At Maddavaram in Kurnool district steatite of particularly high quality has been found, and specimens sent to London for examination were highly reported on. These and other deposits near Betamcherla have been worked in recent years; the output has been used for the manufacture of pencils, paper-weights, electric insulators, French chalk, etc., and before the war several hundred tons were exported to America. Steatite is also largely worked in Salem district for the manufacture of various utensils; the output in the year 1925 was 713 tons. During the same year the output of Kurnool district was only 4 tons. Other deposits which have been worked are found in Bellary and Nellore, the output of the latter in 1925 being 82 tons.

Tantalite.—The minerals tantalite and columbite, which are respectively the tantalate and niobate of iron and manganese, form the extremes of a series passing insensibly from the one into the other, the pure tantalate (tantalite) being at one end of the series and the pure niobate (columbite) at the other. Superficially the two minerals are indistinguishable, but they may be separated from one another by means of their specific gravities, that of pure columbite being 5·3 and that of tantalite 7·3. There is an insensible gradation from the one extreme to the other according to the relative amounts of niobate and tantalate present, but the specific gravity gives a rough indication of the respective amounts present in any particular variety. This is important, since columbite is of no economic value, whereas tantalite is valued for its tantalum content, the latter being used in the manufacture of incandescent electric lamps. The only authentic occurrence of tantalite in the Madras Presidency is near Baiyampatti in the Semmali hills in Trichinopoly district, where tantalite said to contain 66 per cent of tantalic acid ($Ta_2 O^5$) was said to have been found in an excavation made in search for mica; specimens sent to the Geological Survey office, however, were found to be nearer columbite than tantalite.

Columbite has been found in the mica-bearing pegmatites at Chagan-Chaganum in Nellore, and also in Madura, Salem and Trichinopoly districts.

Ferro-tantalite was found many years ago among a collection of rocks and minerals from the Madura district. The locality is given as "near Palni," which may possibly be equivalent to Palni, but this is uncertain.

Wolfram.—Wolfram has been recorded from near Kadavur and Urarkarad in Trichinopoly district, but extensive search made a few years ago failed to reveal any trace of the mineral at either locality.

CHAPTER III.—MICA IN NELLORE.

(By Mr. G. H. Tipper, Superintendent, Geological Survey of India.)

The Nellore mica belt.

The Nellore mica belt occupies the eastern portion of the Madras coastal plain between latitudes 14° and 15°. The country is generally flat but rises gradually to the west until the base of the Veligondas is reached. The flatness is diversified to a slight extent by a number of low hillocks and ridges which are usually quartzites. A low thorny scrub in which the insidious prickly pear plays no inconspicuous part, covers large areas. Numbers of shallow irrigation tanks are dotted over the country and into these as much of the drainage as possible is diverted. The Pennar is the only river of any size.

Geological sketch.

The geology of the Nellore district was first described by Dr. W. King (*Mem. Geol. Surv. Ind.* XVI, 2, page 109) and he drew attention to the presence of muscovite of economic value in the pegmatites. The district was re-examined in 1898 by Dr. T. L. Walker and I am indebted to his manuscript report for many details not only of the geology but also of the mines as they were in his day.

Geologically the plain in which the mica belt occurs is composed of a V-shaped area of well-foliated schists, the angle of the V being situated near Vojili, one of the arms passing nearly due north past Nellore, while the other arm goes in a north-west direction past Saidapuram and Udayagiri. Toward the Bay of Bengal the schists are obscured by rocks of comparatively recent origin, the oldest being patches of the Rajmahal Plant Beds. On the west the boundary is made by an area of igneous rocks, gneissoid rocks, and traps, or by the Cuddapah system of formations which makes up the Veligonda hill range.

The eastern half of the schist complex is traversed by a large number of pegmatites of different forms, often

with muscovite of economic value. This constitutes the mica belt and it lies east of a line joining the villages of Chaganam and Yerraballe. So far no structural or petrological feature has been observed to account for the abundance of mica-bearing pegmatites in the eastern half of the schist complex and their absence in the western half.

The whole of the schists and the rocks to the west are intersected by one, or possibly two, series of dykes generally of olivine free diabases, though some dykes are of beautifully fresh olivine with well-developed ophitic structure.

Recent formation, such as laterite, kankar and alluvium, conceal the older rocks in most places and consequently exposures are generally poor. The kankar, often in large masses, seems to be formed in greater quantity where the hornblende rocks are developed and, it may be suggested, is due to the weathering of the basic felspars of these rocks.

Geology of the mica belt.

As already noted, the mica belt lies in the eastern half of the schist complex. In the mass the schists are very uniform but the intimate geology reveals a great variety, each band varying in texture and composition. There are two main varieties of schist, hornblende and biotite schist of which the former is better developed north of the Pennar river. Garnets are often well developed in dodecahedra. In many bands there is sufficient felspar present for the rocks to resemble a crushed and foliated gneiss. In addition to these two common types, epidote schists are not uncommon and can be seen in the neighbourhood of the Shah mine and at Kalichedu. Chlorite schists are to be found near Saidapuram, Perumallapadu and Orupalle. Schists with blue kyanite and untwinned imperfect crystals of staurolite are also to be seen. A talcose rock worked as a potstone occurs west of the Shah mine. At this locality there is a line of pits extending about 200 yards in length and 60—70 wide, striking north and south. The material is not of good quality but affords a meagre livelihood to a few families of Saidapuram. Associated with this talcose schist is a massive biotite rock almost free from any secondary mineral except swarms of rutile needles. At other places the talcose schist seems to pass

into a fairly massive silvery muscovite-quartz rock. A similar quartz rock is seen to the west of the cart-track from Saidapuram to Anantamadugu.

In the neighbourhood of Saidapuram and also near Chaganam there occur a number of low hills consisting of amphibolites. Sometimes they are quite fresh and completely re-crystallised, of bright green hornblende and plagioclase felspar with ilmenite, sphene and occasionally garnets in well-formed dodecahedra. In places, notably at the entrance to the Tellabodu mine, they are epidotised in irregular bands. Similar epidote rocks but fresher, are to be seen in the small hills near Chaganam. These amphibolitic rocks probably represent altered basic intrusive and extrusive rocks. It is not now possible to separate them from the schist complex in which they are found.

Rising from the almost flat plain of schists are a number of hogbacked hillocks, forming usually the most conspicuous features of an otherwise monotonous landscape. These ridges are composed of massive quartzite, with three and sometimes four systems of jointing well developed. There has been a good deal of movement along the joint planes giving rise to deep grooving. Many of these quartzites form elongated lenses and the strike and dip follow those of the enclosing rocks. Microscopically the rock is compact, splits with a conchoidal fracture and varies in colour from white to rusty brown. Near Lingampalle the colour is sometimes green due to the presence of innumerable small scales of a green mica (fuchsite). When one system of jointing is better developed than the others the joint planes are usually covered with scales of mica, the rocks being then much quarried for building purposes.

Under the microscope these quartzites are quite crystalline, the grains being free from undulatory extinction. As a rule the larger grains interlock showing that they have not been subjected to any extreme pressure since the completion of re-crystallisation. In this respect they agree with the quartz masses of the pegmatites. There can be little doubt that these quartzites form part of the schist complex. It is, however, possible that they were originally intrusive.

The average strike of the schists is from north to south. In the southern part (south of the Pennar river) it varies from north-west-south-east to north-south. In the neighbourhood of Inikurti it is from north-north-east to south-south-west. North of the Pennar the strike varies from west-north-west and north-west to east-south-east and south-east. Throughout, the strike is wavy and individual bands traced through any distance show a varying strike. The dip is usually high, almost vertical. It is rarely as low as 50°. The direction of dip is in general westerly.

General strike and dip of the schists.

East of line drawn from Chaganam to Yerraballe the crystalline schists contain pegmatite masses which are often rich in large crystals of muscovite mica in sufficient size and abundance to permit of profitable mining. These pegmatites usually occur in contact with the schists, instances in which quartzite is the containing rock, are extremely rare, although occurrences of pegmatite are not infrequent in the immediate vicinity of the quartzites.

The mica-bearing pegmatites distribution.

The most careful examination with a view to finding some difference, petrological or structural, between the eastern half of the schist complex characterised by the presence of pegmatite masses and the western half free from pegmatites has up to the present yielded no result. No difference can be detected between the two areas. The boundary has, therefore, been drawn west of the known mica occurrences and must be considered as only approximate.

Throughout the mica belt the pegmatites follow the strike and dip of the enclosing rocks. No instance has yet been seen where a pegmatite cuts across the strike. Even the smallest stringers show this correspondence with the strike and dip of the enclosing rocks. The forms assumed by the pegmatites are very irregular. The commonest types are the lens, lenses connected by small necks of pegmatite, lenses arranged en echelon, long irregular masses. Regular wall-like sheets and dykes with well-defined outlines are very rare. Wherever it is possible to trace the outline of the pegmatite mass with certainty, marked irregularities invariably occur. The best known example of a single lens is at "D" mine not far from

Form and size of the pegmatites

the village of Inikurti. "F" and Orupalle mines show an example of two connected lenses. At Kalichedu there would appear to be a series of connected lenses and south of this towards the stream a number of lenses arranged en echelon. Large irregular masses are to be seen at Tellabodu and Rocklands, the former being somewhat dumbbell-shaped. Regular dykes and sheets are rare, the best example being at Nandalagunta extension mine.

The size of the pegmatites varies from the thinnest stringer to that of masses like Tellabodu. The latter has an exposed strike of over 1,200 feet and varies in width from 60 to over 180. At Sankara the pegmatite has been worked over a width of over 150 feet and no wall is yet to be seen. Many other instances could be given.

Although the dip of the pegmatite masses is usually as that of the enclosing rock exceptions occur but are rare. In the most northerly pit of Kalichedu the dip of the pegmatite is almost flat so far as work at present has gone while that of the schists is about 70 . It is probable that the dip of pegmatite will eventually become much steeper.

The pegmatites never show any contact effects. The walls show no signs of alteration nor the formation of any mineral which cannot be found in the schist away from the pegmatite. Inclusions of schist in the pegmatites are similarly unaltered and retain all their characteristics, the foliation planes being as well marked as ever.

Only two cases have been noted where there has been any disturbance of the enclosing rock by the pegmatite. Usually the schists are undisturbed. At Tellabodu on the footwall side the schists of which the normal dip is south-west are dipping south-east, suggesting that the schists had conformed to the shape of the pegmatite. Similarly at "D" mine the schists have apparently curved round the pegmatite lens.

Instances of structure which can be referred to pressure outside the pegmatite are uncommon and judging from the extraordinary size to which the mica crystals have grown in these pegmatites, they must have crystallised under conditions of absolute quiescence and the defects in the mica crystals (pressure cracks, etc., to be noted later), cannot have been produced by external

pressure. In a small pit near the hill known as Kistama Konda the lenticular and laminated arrangement of the massive quartz-felspar rock with micaceous partings is strongly suggestive of external pressure. No other similar instance has been noticed.

Minerals of the pegmatites.

The pegmatites are composed of felspar, quartz and muscovite with numerous accessory minerals. The felspar is usually a fresh microcline varying in colour from colourless to pink and rarely greenish. Although microcline is the common felspar, perthitic intergrowths are frequent, sometimes coarse enough to show on the weathered surface. The individual crystals of felspar are often of considerable size and it is common to see cleavage fragments of half a cubic foot on the dump heaps. Kaolinised felspar is not very common. Plagioclase felspar is rare.

The quartz is always clear and colourless. It is usually developed to the greatest extent near the central portion of the pegmatites, forming masses as at Sankara of many hundreds of tons in weight. The individual crystals are fairly large, the grains are free from undulatory extinction and interlock perfectly. Quartz and felspar are often intergrown as graphic granite, sometimes to the exclusion of the central quartz. This is generally considered a bad sign for the discovery of large quantities of good mica. In contrast to the pegmatites of the Bihar mica belt where the quartz is generally evenly developed at the middle of pegmatites, in Nellore the quartz is often very irregular in its occurrence. It may be almost circular as at Sankara and other mines, very irregular as at Tellabodu and Kalichedu. It is regular and thin at Nandalagunta.

The mica is generally muscovite and is generally of some tint of green. It is occasionally colourless or silvery as at "D" mine. Along a line running north and south from Kalichedu mine to Minakshi Sundaram (just north of Utukur village) the mica is a brown, almost ruby colour.

Biotite, usually weathered and soft, is not uncommon. It is generally worthless, but at one of the pits at Kalichedu many of the books of mica are composed half of muscovite and half of biotite. In this instance the biotite is fresh and unweathered. It cuts and splits well. But, although

such biotite is not much inferior electrically to muscovite, it is structurally much weaker, will not stand the same strain and is hence much less valuable. Biotite is usually known in this district as " Krishna " mica.

Inclusions of magnetite and hematite forming often three systems of lines intersecting at angles of 60° and 120° are extremely common.

The accessory minerals found in the area are garnet, usually in crystal forms distinct from those of the schists, tourmaline, common in most of the mines in the southern portion of the area, beryl, of which huge crystals have been found in the " L.N." mine and are common in many others, apatite, columbite, automolite, samarskite, sipylite, zircon, allanite and kyanite.

Distribution of payable mica in the pegmatites.

The irregularities of form of the pegmatites already noted will naturally affect the distribution of payable mica. Unfortunately the prevalent custom of open casting all deposits, the lack of records of work done and the state of the pits in many cases prevent inferences being drawn from the workings. There are, however, one or two points to which attention may be directed. No pegmatite contains payable mica uniformly distributed throughout its mass. There is always a barren portion more or less central. The information gathered lends itself to the conclusion that the contact sections near the hanging and footwalls carry the payable mica. It may be one or other or both. In these large masses the contact sections may easily be of considerable thickness and it may be expected that the mica will be irregularly distributed through this breadth. From the old and present workings at Tellabodu this seems to be the case on the hanging wall section there. Another possible explanation is that the mica occurs in patches with barren areas between. In certain instances mica occurs in payable quantities where the softer felspathic marginal pegmatite abuts on the quartz masses. A striking example occurs in the Sankara mine where the quartz boss in places shows the impressions of numerous large books of mica, since removed. In certain instances besides the contact mica there seem to be subsidiary runs of payable mica (" F " mine). In the lenticular pegmatites the mica seems to occur at the bulge or is sometimes

richer at the ends of the lens than at the central parts. There is no hard and fast rule and each pegmatite must be treated on its own merits. There are also variations in the value of the mica content and there do occur pegmatites with little or no payable mica.

It is interesting to note that there is often a local enrichment of the mica content where a large inclusion of schist occurs in the pegmatite.

Surface indications of pegmatites.

The country being almost uniformly flat and soil covered good exposures are naturally rare. A little consideration will show that, if any portion of the pegmatite does outcrop, it will be the harder and more resistant parts only, the quartz boss or the massive quartz felspar mixture, and in these mica cannot be immediately expected. These indications such as they are, should be of great value to the prospector. Even in those localities where there are no outcrops but where the presence of hidden pegmatite is suspected, the resistant portion of the pegmatite will be nearer the actual surface. The situation of many pits close to irrigation tanks is not due to chance but to the prospecting work done during the excavation for the tank and the dam. The amount of mica to be seen in many places just below the soil cap is astonishing. Judging from its condition and mode of occurrence this mica has been seen weathered out *in situ* and has not travelled any distance. This sub-soil mica in many instances leads to the discovery of pegmatites of value and it is to a certain extent responsible for the present method of mining. Mica can occur just below the soil cap without leading to any pegmatite, although the mica has been weathered out *in situ*. In this case the mica represents the end product of a pegmatite completely, or almost completely weathered away. It is necessary to take into account the effect of denudation on the pegmatites. They are in every stage of dissection, some perhaps still uncovered, while others have completely disappeared.

Continuation in depth of the mica pegmatites.

As all the pits are mere scratches on the surface (the deepest being only 180 feet) and as no records have been kept, nothing definite is known about the behaviour of the pegmatites or their mica content at any great depth. The marked lenticularity and irregularity of outcrops of many of the deposits suggest that similar

irregularities will occur at depth. Lenticular deposits will be solid lenses. Very little evidence is forthcoming on this point, but at "D" mine the section of the pegmatite which can be seen, strongly supports this view and a similar impression is to be obtained from "L.N." mine. Instances of this pinching lens are well established in the Bihar belt and it may be suggested that the same thing will happen in Nellore. The larger masses with long strike may perhaps persist to considerable depths but they will undoubtedly show marked irregularities. Nothing is, in fact, definitely known of the behaviour of the pegmatites at depth and nothing can be expected if the present methods of work are persisted in.

Present methods of prospecting and mining.

There is one method of prospecting and mining universally in use in the district. A number of small holes are dug in a likely place and any which give a good show of surface mica are continued being enlarged to enable the coolies to work easily. If mica continues in the pit the work is continued, the hole being enlarged more and more until it eventually becomes a fairly large open pit from which water cannot be excluded. As the waste rock is dumped on the lip of the hole, each enlargement necessitates the re-handling of a large amount of material already raised to the surface. Each rain the pit is flooded and partly filled with mud, causing a still further uncalled-for outlay. This briefly is the history of every pit now to be seen in the district. The life of such a pit is short, depending on the value of the deposit, the stability of the walls, the depth of water-level, and the presence of large waste heaps on the edge of the pit. In other words, further work is stopped by the difficulty of moving large heaps of waste material or the value of the deposit does not warrant the continuance of opencasting. Throughout no attempt is made to investigate the pegmatite as a whole, to find its limits either in length or breadth. Even in places where surface outcrops show a connection between pits no attempt is made to open them up. Labour is very wastefully used. Simple labour-saving devices are practically unknown. An important point with regard to opencasting is that in addition to allowing free entry to surface water greatly aggravated by the spongelike dump heaps on the lip of the hole, *cutting* through the schist and particularly through the

junction of the schist and the pegmatite opens up water channels through which water continues to percolate long after surface water has ceased. With a little intelligent forethought in preliminary prospecting and laying out the work in proper benches to allow of the proper utilization of labour and explosives even the present system of work could be greatly improved. In the proper use of explosives the lack of efficient supervision is very apparent. The shot holes are short and badly placed, while only half a dynamite cartridge is used. The following description of "D" mine will give some idea of the final condition of a comparatively large pit after it has been opencast. The pit has been excavated to get mica from a single, well-defined pegmatite lens. The strike is north-north-east to south-south-west and the dip is practically vertical. The approximate dimensions of the pit are: length 450 feet, breadth 200 and depth from 150 to 180 feet. At the bottom of the pit there are from 70 to 100 feet of water. The lens has been completely excavated to a depth of about 40 feet and below that chiefly on the footwall and only partly on the hanging wall. The waste rock is now heaped up on the immediate lip of the hole. It is probably this which has prevented the continuation of the pit. The amount of rock excavated is in the neighbourhood of 3 million cubic feet and cheap as labour is it would not pay to re-handle this mass of material. This 3 million cubic feet includes all the schist which had to be cut away to make the walls safe; this is probably 500,000 cubic feet. The amount of barren pegmatite also raised to the surface is probably 1 million cubic feet. The actual mica-bearing rock is thus reduced to only a million and a half cubic feet. In any order system of mining except opencasting the latter figure represents the total amount of rock which need have been raised to the surface.

The objections to opencasting may therefore be summed up as follows:—

(*a*) it permits the free entry of surface water;

(*b*) it opens up the principal drainage channels in the schists and at the junction of the pegmatite and the schist;

(*c*) it is wasteful in labour;

(*d*) the disposal of the dump is a matter of considerable *difficulty*;

(*e*) it is impossible with this system of mining to carry on operations to any depth. Even under the most favourable conditions opencasting in this district has not produced a mine deeper than 180 feet, a mere scratch on the surface. The depth to whioh opencasting can be continued may be taken as equal to the breadth of the excavation. To carry on operations down to the shallow depth of 500 feet would entail a pit of at least 500 feet broad and so on in proportion. It is obviously impossible to do anything of the kind.

Opencasting must be unhesitatingly condemned.

The sole advantage of the method is that it is the simplest form of mining and can be carried on with the minimum of supervision which need not be highly trained. Most of the supervisors are very poorly paid and cannot be expected to superintend any but the most elementary work. All the work is done in the open air and a man standing on the edge of the pit can see everything that is being done.

Although opencasting is the general mining custom, attempts have sometimes been made as at Tellabodu and "L.N." mines by the previous lessees to extract mica by means of inclines and irregular stopes. The work was so badly laid out that in both these cases the results were disastrous. On the footwall side of the great quartz boss at Tellabodu there were a number of inclines which eventually became huge open stopes. No support was left with the result that the boss simply sat down obliterating the work and effectually preventing a continuation in that direction until adequate support had been provided. A somewhat similar condition arose at "L.N." mine where lack of support caused the entrance to become blocked by a slip. It was commonly supposed that the state of affairs was so serious that the mine would never be successfully reopened. Such is not the case. Under the supervision of the late Mr. H. J. Sparks, Mines Manager of Messrs F. F. Chrestien & Co., this mine was quite successfully reopened. Under his supervision excellent work was also carried on at Kalichedu.

Many of the pits are equipped to deal with an inflow of surface water. Oil-engines and centrifugal pumps are in common use. With a fixed suction and throw these are efficient but, where, as in mining the throw is constantly varying and lowering of the pumps is necessary, they are clumsy and wasteful, involving the use of counter-shafting entailing a great loss of power. The use of the belt-driven single-throw centrifugal pump was copied from the irrigation people who employ it for lift irrigation.

Mine equipment at present in use.

Electrical driven pumps were installed at Sankara and were at one time in process of installation at Kalichedu. They require skilled workmen to look after them and are not sufficiently "foolproof" to be recommended for general use.

The best and most efficient pumps from all points of view are those worked by steam. The difficulty in this instance is fuel. Coal is almost prohibitive in price and fuel obtained from the local forest coupes is poor. Possibly a solution may be obtained by adapting boilers to use oil fuel. Mechanical haulage is by no means common. Generally waste rock is raised by hand.

Compressed air rock drills have been used at Kalichedu and "L.N." mines. Their introduction here, as in Bihar, is due to the late Mr. H. J. Sparks.

Opening up old pits.

As neither plans nor sections of any of the old workings have ever been made, accurate information as to the extent and plan of the workings is unobtainable. Inquiries from coolies and others who at one time worked there will not elicit anything more satisfactory than a statement of the depth expressed in lengths of palmyra trees. The mere inspection of any old working will not enable a definite plan to be formulated although useful suggestions can often be made. Before a definite plan can be laid out for opening up it is essential that old pits and workings should be dewatered and cleaned. From what has been said above it seems that this requires a considerable outlay of capital. Pumps must be installed and some form of mechanical haulage. The old workings must be bottomed before a proper plan can be laid out. The information to be expected from this cleaning will include any signs of impoverishment of the mica content, the relative position of the workings in the pegmatite, the safety or otherwise

of the workings, the possibility of utilizing the work already done in the new scheme and above all the prevention of serious disaster which might result if the old workings were neglected and were suddenly cut into.

As an instance of the capital necessary for such operations "D" mine may be taken. The cost of opening up and cleaning this pit cannot be put at a lower figure than Rs. 50,000 and it may be much more. It may be pointed out that on account of the form of the pegmatite this is a more speculative venture than usual.

The reluctance of the Indian mine-owner and lessee to open up and spend money on old pits from which he himself has had a good return leads to the conclusion that this type of work will be left to European firms employing trained mining engineers, who are willing to risk their money and are able to draw up proper plans for development. The Indian miner will remain content to continue making open pits down to comparatively shallow depths from which an easy return may be expected.

Opening up new deposits.

No hard and fast rule can be laid down for the actual opening up of new deposits. Each pegmatite has its own peculiarities and much depends on the results of the preliminary prospecting work. The actual development work of the mine is best confined to the pegmatite itself and no attempt should be made (unless in very exceptional circumstances) to do any development in the country rock. In the majority of cases the pegmatites are sufficiently strong to stand without artificial support if the work is properly laid out.

Future of the district as a mica producer.

The prospecting work now going on points definitely to a large supply of mica still untouched. There is also a large amount still to be won from many abandoned pits awaiting opening up. It may be safely assumed that some of the abandoned still contain mica. It is unlikely that they are all exhausted. There does not, in fact, seem to be any danger of an immediate cessation of the supply.

The future of the field is, however, intimately connected with the mining methods at present in use. If these wasteful methods are persisted in, the future of the field is a comparatively short one as far as the Indian miner is concerned, as there are no signs of his willingness to invest even a part of his returns obtained from mica

in his own mines. Mica has been and still is looked upon as an easy way of getting a quick return from a very small outlay. This view is undoubtedly based on the meteoric career of the late Ansar Subba Naidu. The Indian miner will be content to work over areas as large as he can obtain in shallow open workings. The day is rapidly arriving when all the pegmatites will have been superficially scratched and the supply of mica will depend on mining properly so called.

There is one way in which the Indian miners might avail themselves of an expert supervising staff and that is by co-operation. It is not every mica mine which is sufficiently valuable or big enough to warrant the whole-time services of a trained mining engineer. There could, however, be formed centralised groups of mines, each group to be placed under one man who would be responsible for the development, the expenses being shared *pro rata* amongst the lessees. The possibilities do not end here but might be extended to include centralised cutting sheds and other surface works.

Preparation of mica for the market.

In the Nellore belt owing to the proximity of the mines to the cutting sheds there is no preliminary sorting of the rough mica. This is done in the sheds. The cutting is done by a pair of garden-shears with one handle firmly fixed in the ground while the other is free to move. The rough mica is cleaned and split ready for shears by women or boys and these pieces must be comparatively thin. The trimming is an operation of great simplicity and does not differ greatly from cutting several sheets of paper with scissors. No attempt is made to cut round flaws and in most cases it would be impossible to do so. A rectangular block of sound mica is aimed at cutting inside flaws and cracks. Small pieces cut off and not of sufficient size to yield a large enough rectangle are trimmed to rounds and are used for splittings as are the films obtained during cleaning. The edges of a mica block trimmed by the shears are always slightly frayed, the films being forced apart within a short distance of the cut edge.

At one period the brown mica of the Kalichedu strike of pegmatites was trimmed by the sickle as is done in the Bihar mica field. With the sickle flaws and cracks are cut out from the mica block and the final result is

an irregular shape with many re-entrant angles, the edge being doubly bevelled and free from fraying. The sickle can trim a much thicker block than the shears.

A comparison of the two methods brings out some interesting facts. Sickle trimming is much less wasteful. A medium sized block of mica was split into three pieces of equal dimensions. On one was traced a polygonal figure, without any large re-entrant angles, giving the maximum area of sound mica obtainable. This was used as the standard. The other pieces were given, one to a sickle dresser and the other to a trimmer using shears. By sickle-trimming the percentage of sound mica obtained in comparison with the standard was 75 and by the shears 60, the wastage being 25 and 40 per cent, respectively. The comparison is greatly in favour of sickle-dressing. It also draws attention to the high percentage of wastage in hand-trimming and any device leading to a reduction would be of advantage in the industry.

In speed of cutting and in weight of mica cut daily the shears are much superior to the sickle. Sickle-trimmers can dress from 8 to 20 lb. of mica daily according to the size of the sheets, but the shears will trim 70 to 80 lb.

Square-cut mica is looked upon more favourably by users as there is less waste than with sickle-trimmed material.

After trimming the mica requires to be graded and sized. If the dressing has been carefully done, grading for quality ought not to be a difficult matter. There are opportunities for the judicious removal of small flaws of inclusions and of the dirty upper films. Grading for very high qualities involves a great deal of rehandling and takes time and is probably not justified by the expense entailed. There is always a certain amount of wastage at this stage but it will be reduced to a minimum if the grading is carried out immediately after trimming when the blocks are fairly clean.

In Nellore the sizing is done with almost meticulous care according to the Madras Government Schedule.

Splittings.

The preparation of splittings forms a not inconsiderable part of the mica industry. In Nellore what are called "rounds" are used. "Rounds" are prepared from pieces of block mica not large enough for trimming, from the odd pieces

obtained during trimming, from the films during cleaning or may be occasionally specially prepared. The shape is explained by the name. Splittings are the thin films taken off from the rounds by means of a long pointed knife and the women and children who are principally employed will take off film after film one-thousandth of an inch * thick as quickly as one would strip sheets from a writing pad.

The films so prepared may be kept loose and packed in that way when they are known as loose "splittings" or in the case of better qualities the films are placed in shallow circular tins with a number of small holes pierced through the bottom. When a certain quantity of films has accumulated, the films are compressed by a circular block of wood or stiff cardboard which fits the tin. The films adhere to each other and the result is a pancake of films. These cakes are packed and are known as "pan" splittings. Mica, to film properly, must be free from cross-graining, cracks and bad flaws but any quality of mica may be used.

The percentage of splittings obtained from good block mica in Nellore is about 50. The most expert worker will not make more than 10 lb. per day but the average is very much less than this.

Micanite.

Micanite can best be described as reconstructed mica made by cementing the films obtained from splittings with some form of shellac dissolved in spirit. The films are spread by hand on a sheet of paper until the area is covered and films overlap. On this is spread as uniformly as possible the cementing material. Another layer of films is then laid down and more shellac, the process being continued until a sheet of the required size and thickness has been prepared. These sheets require to be steamed, pressed, rolled and trimmed. Not only is it possible to get sheets of any size and thickness but with a suitable cement the sheets can be corrugated or moulded while hot. In fact any shape of insulator can be made.

The cementing material is always some form of shellac, of which India has monopoly. There is also a plentiful supply of labour in the country and there seems no reason why, when splittings are prepared on the spot, such an important bye-product of the mica industry should be almost wholly carried out abroad.

* This is the thickness required and is constantly checked by the use of a micrometer gauge. Each pound of splittings contains between 4,000 and 5,000 films.

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PART B.—MINING CONCESSIONS.

CHAPTER V.—RULES REGARDING MINING AND QUARRYING.

SECTION I.—INTRODUCTORY.

1. The State's right to minerals varies in different classes of land in accordance with the tenure on which the land is held. For this purpose lands are divided into three groups namely:—

Group A.—Lands in which the State claims no right to minerals.

Group B.—Lands in which the State claims a share in minerals.

Group C.—Lands in which the State claims full rights in minerals.

2. *Group A.—Lands in regard to which the State claims no right to minerals.*—No claim to minerals should be made on behalf of the State in the following classes of land :—

(*a*) [a] In estates held on sanads of permanent settlement [a].

(*b*) [a & g] In lands held on title-deeds issued under the Waste Land rules before 7th October 1879, in which no reservation was made of the right of the State to minerals [a & g].

(*c*) [b] In lands held on inam tenure wherea part from the title-deed issued by the Inam Commissioner the original grant, either expressly or by necessary implication,[b] made a conveyance of the State's rights to minerals.

[a] G.O. No. 544, dated 25th May 1882 (Notification, paragraph 1).
[g] G.O. No 2029, dated 7th October 1879 (paragraph 2).
[b] B.P. No. 18, dated 21st January 1906.

Note.—Quarries and mines on such lands may briefly be described as "*Private quarries*" or "*Private mines.*"

3. *Group B.—Lands in regard to which the State claims a share in minerals.*—Claims should be made to the State's share (as determined by the rules below) in all mineral produce in the following classes of land :—

(*a*) [c] In lands occupied, or hereafter assigned for agricultural purposes subject to the conditions of ryotwari grants [c].

(*b*) [d] In [f] private [f] janmam lands in Malabar [d] and [e] the Nilgiris [e].

G.O. No 2103, Development, dated 18th December 1928.
B.P. Mis., No. 530, dated 20th February 1929.

(e) [f] In lands held on inam tenure which do not fall under paragraph 2 (c) or 4 (c) of these rules.

[a] G.O. No. 1248, dated 8th October 1868.
[a] G.O. No. 121, dated 23rd January 1884.
[c] G.O. No. 551, dated 28th April 1884.
[d] G.O. No. 809, dated 15th July 1880.
[d] G.O. No. 1384, dated 16th December 1884.
[e] B.P. Mis. No. 6804, dated 13th November 1894.
[f] B.P. No. 18, dated 21st January 1905.

The rules regulating mining in lands held on ryotwari tenure are given in section II. These rules will apply *mutatis mutandis* to the other classes of land in which Government claim a share of the mineral output.

G.O. No 607, dated 8th September 1894.

Note.—Quarries and mines on such lands will be referred to in brief as "*Shared quarries*" or "*Shared mines.*"

4. *Group C.—Lands in regard to which the State claims full right to minerals.*—The full right to all minerals should be claimed on behalf of the State in the following classes of land :—

(a) [g] In lands sold under the Waste Land Rules after 7th October 1879. [g]

(b) [d] In escheat lands, the janmam right to which was sold by Government after the issue of G.O. No. 809, dated 15th July 1880, but before the issue of G.O. No. 1384, dated 16th December 1884.[d]

(c) [b] In inam lands granted on service tenure, i.e., as wages for public service, whether enfranchised or unenfranchised [b].

[b] B.P. No. 18, dated 21st January 1905.
[d] G.O. No 809, dated 15th July 1880.
[d] G.O No. 1384, dated 16th December 1884.
[g] G.O. No. 2029, dated 7th October 1879 (paragraph 2).

(d) [h] In lands which have been constituted reserved forests under section 16 of the Madras Forest Act, 1882 [h].

(e) [h] In lands which have been notified as reserved lands under the rules issued by Government under section 26 of the Madras Forest Act, 1882 [h].

(f) [i] In unreserved lands at the disposal of Government [i].

(g) In lands occupied, or hereafter assigned, as village or town site.

(h) In all other lands not falling under paragraph 2 or 3.

[h] B.P. No. 2030, dated 9th July 1885 (appendix, paragraph 11).
[i] G.O No. 598, dated 21st June 1887.

The rules relating to mining in these classes of land are contained in Chapter VI.

Note.—Quarries and mines on such lands will be referred to in brief as "*State quarries*" or "*State mines.*"

B.P. No. 18, dated 21st January 1905.

SECTION II—RULES FOR MINING IN LANDS HELD ON RYOTWARI TENURE AND OTHER LANDS IN WHICH THE STATE CLAIMS A SHARE IN THE MINERALS (GROUP B).

5. No charge will be made for merely *prospecting* for minerals, provided that such prospecting shall be carried on for a limited time only, not exceeding one year, and shall not cover regular mining operations.

[1] B.P. No. 570, dated 4th October 1893.

6. [k] No charge will be made in cases in which a registered holder may wish to quarry a small quantity of laterite, etc., for his own use for a specific purpose without any intention of continuing operations indefinitely, provided that the land is not in any way rendered less fit for cultivation than before. Nor do the rules affect in any way the right which all holders of lands held on ryotwari tenure [1] possess of digging wells in their lands and of disposing of the gravel and stones which may be thrown up in the course of such excavation [1] but any quarrying whether of stone, gravel, laterite, slate, clay or earth for other than *bona fide* domestic purposes is subject to the payment of the fees or rates prescribed in Appendix IV* in Chapter VIII.

[1] B.P. No. 570, dated 4th October 1893.

[k] G.O. No. 1293, dated 19th November 1885 (paragraph 1).

7. Every registered holder intending to undertake or permit the working of minerals or the depositing of mining waste in his lands held on ryotwari tenure shall give notice of his intention to the Collector of the district specifying the fields in which and the minerals for which he intends to carry on operations. Every such notice shall be accompanied by an accurate map or sketch of the area over which it is proposed to mine or to deposit mining waste. In default of the submission of such a map or sketch, the Collector shall have one prepared under his orders and recover the cost from the registered holder concerned. The provisions of this rule and of rules 8 and 11 do not apply to the quarrying of such minerals as stone, gravel, laterite, slate, clay or earth not possessing a high commercial value. But if any registered holder conducts operations on a large scale it is his duty to give previous notice to the Collector.

8. On receipt of the notice, the Collector may, if he sees no valid objection, allow operations to be commenced on the registered holder's executing an agreement in the form set out in Appendix I† in Chapter VIII

* Pages 107-108. † Pages 93-99.

binding himself to accept the conditions and stipulations set out in rules 9 to 18 infra and on his depositing as security such sum as the Collector may consider sufficient to cover the loss that may ensure if the land on which mining operations have been carried on or which has been used for the deposit of mining waste is rendered unfit for cultivation. But no such permission shall be granted, except with the previous sanction of Government, if the minerals are to be worked by or on behalf of any person who is not a British-born subject. The amount of deposit shall not exceed Rs. 500, and the Collector shall have discretion to reduce the maximum amount in petty cases to a sum not less than thirty times the assessment of the area likely to be rendered uncultivable.

9. In all cases the pattadar shall be held responsible for working the mine in a proper manner and shall also be directly liable to Government for any wrongful act or default on the part of his nominee.

10. The pattadar shall be liable to pay in addition to the land assessment a royalty at the rates shown below or dead rent, whichever may be the greater in amount, at such rates as the Collector may determine. The rates of dead-rent shown below are minima which have been purposely fixed low; any higher rates may be imposed by the Collector at his discretion in accordance with the value of the deposit or the degree of development of the country, but when the rate has once been fixed it cannot be subsequently enhanced except under rule 18 infra.

Minerals.	Royalty.	Dead rent per acre (minimum). RS. A. P.
Coal, exclusive of dust and coal used on the works.	5 per cent on the sale value at the pit's mouth, with a minimum of 2 annas per ton.	0 2 0
Coal dust	Half the rates fixed for coal	0 2 0
Mica	5 per cent on the sale value * at the pit's mouth.	0 8 0
Natural petroleum ..	5 per cent *ad valorem* on the well head value subject to a minimum of 8 annas per 40 gallons.	0 8 0
Natural gas	If sold by licensee or lessee or if utilized by him for any other purpose than the production of natural petroleum or natural gas—5 per cent on the well-head value. On gas converted into gasoline, the well-head value shall be calculated on the volume of gasoline manufactured; it shall be deemed to be equivalent to the selling value of the gasoline less the cost of manufacture and the royalty shall be subject to a minimum of 8 annas per 40 gallons of gasoline manufactured;	

* The sale value of mica should be calculated on the scale given in Appendix XIV in Chapter VIII, page 165.

Minerals.	Royalty.	Dead-rent per acre (minimum). RS. A. P.
	Provided that the 5 per cent royalty rate shall be convertible at the option of the Local Government to an equivalent charge per 40 gallons of gasoline (not being less than 8 annas) or per 1,000 cubic feet of gas, as the case may be, to be fixed annually.	
Oil shale—		
(*a*) When the oil is extracted by the licensee or lessee within the territories administered by the Local Government granting the concession.	8 annas per 40 gallons of crude oil obtained therefrom.	
(*b*) In other cases ..	Re. 1 per ton of shale mined	0 8 0
Gold and silver	7½ per cent on the profits * of each year taken separately or 2½ per cent on the gross value, at the option of the Local Government.	0 8 0
Iron-ore intended to be used for the extraction of iron.	One anna per ton of iron-ore during the year for which the tariff valuation of imported pig-iron has been fixed at Rs. 66 per ton or less. When the tariff valuation exceeds Rs. 66, one anna will be added to the royalty rate for every increase of Rs. 15 or part thereof in the tariff valuation. Should the tariff valuation of pig-iron become fictitious owing to the cessation of imports or to any other cause, a point on which the decision of the Government of India shall be final, the market value of pig-iron for the purpose of the assessment of royalty shall be determined by the Government of India.	0 0 6
Precious stones	30 per cent on the net profits of each year taken separately (for mining leases only).	0 8 0
All other minerals not specified above and possessing a high commercial value.	2½ per cent on the sale value at the pit's mouth, or on the surface, of the dressed ore or metal, convertible at the option of the Local Government to an equivalent charge per ton to be fixed annually or for a term.	0 8 0

* Profits shall be taken to mean the excess of the revenue which is wholly derived from the sale of the mineral or minerals specified over expenditure, after all costs and expenses chargeable to the actual working and management of the mine shall have been excluded. But neither depreciation nor amortization nor director's fees nor any revenue or expenditure obtained or incurred on account of share or capital transactions or by trading shall be brought into the account, provided that the fees of such director or directors as may actually direct technical operations and are specifically denoted as Managing Director or Managing Directors may be included in expenditure.

NOTE.—Tariff valuation is fixed in December for the following calendar year, but the Local Government may, at their discretion, assess the royalty for the financial year beginning on the 1st April on the tariff valuation fixed in the preceding December.

Minerals not possessing a high commercial value and exploited rather by quarrying than by mining such as stone, gravel, laterite, slate, clay or earth shall be

charged seigniorage fees or acreage assessment subject to the maxima rates shown in [a] Appendix IV in Chapter VIII. In the case of stone, laterite, etc., the Collector will decide whether seigniorage fees or acreage assessment shall be levied; but in the case of clay for bricks and tiles acreage assessment should be charged.

11. The registered holder shall keep correct accounts in such form as the Collector directs showing the quantity and particulars of all minerals obtained from the mine and the number of persons employed therein; and shall also when directed by the Collector maintain complete plans of the mine; and shall allow any officer authorized by the Board of Revenue in that behalf at any time to examine such accounts and plans and shall furnish the Local Government with such information and returns in respect of the aforesaid matters as it may prescribe.

12. The registered holder shall allow any officer authorized by the Board of Revenue in that behalf to enter upon the premises over which mining operations are carried on for the purpose of inspecting the same.

13. The registered holder shall, without delay, send to the Collector a report of any accident which may occur at or in the said premises and also the discovery therein of any mineral other than the mineral or minerals specified in the notice given by him in accordance with the preamble to these rules and shall also pay in respect of such mineral either royalty or dead-rent as provided in rule 10 supra.

13-A. The registered holder shall not assign, lease or part with the possession of his lands or any part thereof for the whole or any part of the said term without previous intimation to the Collector in writing.

(G.O. No. 1363, Development, dated 16th September 1926.)

14. The registered holder, if he relinquishes the whole or part of the land used for mining operations or for the deposit of mining waste, shall be liable to restore the same to a state fit for cultivation or securely and permanently to fence in abandoned pits in cases in which the Collector may consider such restoration or fencing necessary. In default thereof, it shall be open to the Collector to have the necessary work carried out from the security deposit referred to above or to deduct from the security deposit and carry to the credit of Government thirty times the assessment of the land so rendered uncultivable.

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[a] Pages 107-108.

15. No remission of assessment will be granted in respect of any land rendered unfit for surface cultivation by the carrying on of mining operations or by the deposit of mining waste.

16. The amount of royalty or dead-rent payable to Government on account of minerals worked will be entered in the patta containing the details of the revenue demand on the land [a] or in its absence in a miscellaneous patta[a] containing the details of the revenue demand on the land and will be collected under the provisions of the Madras Revenue Recovery Act, 1864.

17. Should any question or dispute arise regarding the agreement or any matter or thing connected therewith or the powers of the registered holders thereunder or the amount or payment of the royalty or dead-rent made payable thereby, the matter in difference shall be decided by the Board of Revenue, whose decision shall be final.

G.O. No. 607, dated 8th September 1899.
G.O. No. 83, dated 2nd February 1900.
B.P. No. 12, dated 10th January 1900.
B.P. No. 31, dated 23rd February 1900.

18. The rates of royalty or dead-rent shall be liable to be enhanced or the agreement to be determined in case of breach of any of the above conditions. If the land is seriously damaged by quarrying it will be open to the Collector to impose enhanced rates of seigniorage fees or acreage assessment as the case may be.

18-A. If a registered holder permits his land to be used for the deposit of mining waste and such land is not included in the form set out in Appendix I* in Chapter VIII, namely, form of agreement for mining in lands held on ryotwari tenure, an agreement in the form set out in Appendix II† in Chapter VIII should be obtained from the registered holder.

18-B. If the registered holder does not intend to carry on mining operations himself but leases out the right to do so to another person, the registered holder and his lessee shall enter into an agreement with Government binding themselves jointly and severally to accept the conditions and stipulations set out in rules 9 to 18 supra. The agreement will be in the form set out in Appendix III‡ in Chapter VIII.

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a B.P. No. 570, dated 4th October 1893.

* Pages 93–99. † Pages 100–101. ‡ Pages 102–106.

CHAPTER VI.—RULES OF THE GOVERNMENT OF INDIA REGULATING THE GRANT OF MINING CONCESSIONS, WITH THE RULES MADE BY *THE LOCAL GOVERNMENT INSERTED AS* NOTES THEREUNDER.

SECTION I.—RULES MADE BY THE GOVERNMENT OF INDIA.

The following rules regulating the grant by Local Governments of licences to prospect for minerals and the grant of leases of mines and minerals in lands in which the State claims full right to minerals have been made by the Governor General in Council, and sanctioned by the Secretary of State for India in Council.

N.B.—In the following rules, the notes in small type annexed to various rules contain local rulings by the Government of Madras:—

Part I.—General.

(1) No licence to prospect for minerals or lease of mines and minerals can be granted by any Local Government otherwise than in accordance with these rules, except with the previous sanction of the Secretary of State for India in Council, or with that of the Governor General in Council under any general or special authority which he may have received in this behalf from the Secretary of State in Council.

(2) In these rules,—

"Collector" means the Revenue Officer in charge of the district;

"Local Government" includes a Chief Commissioner; and

"Person" includes, besides individuals, a public company registered in India, in the United Kingdom[a] or in a British colony having a duly empowered agent resident in India, or a syndicate, partnership or private firm of which one or more of the members reside in India, or which has a duly authorized agent resident in India.

"Minerals" except where the contrary appears from the context includes petroleum and natural gas.

[Correction Slip No. 248, dated 8th April 1927.]

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[a] B.P. No. 40, dated 5th February 1915.

(3) A certificate of approval or a prospecting licence or a mining lease shall be granted only to a person who is a British subject, or if the persons be a company or firm, only if such company or firm is shown to the satisfaction of the Local Government to be controlled by British subjects. In the case of the death of the person or any other persons to whom the licence or lease has been granted, it shall inure for the benefit of his legal representatives only if they are British subjects, or a company or firm shown to the satisfaction of the Local Government to be controlled by British subjects.

Note.—The expression" British subject" used in this rule includes the subjects of Indian States.

(4) For the purpose of these rules the Local Government may in provinces where there is a Board of Revenue or Financial Commissioner, delegate to such authority all or any of the powers conferred on the Local Government by these rules.

Note.—In this Presidency the Local Government has delegated to the Board of Revenue the power of granting certificates of approval and all the other powers conferred on Local Governments with the exception of—

(i) the following powers with regard to mining leases:—

(*a*) power to prescribe the fee for the inspection of registers of applications (rule 44),

(*b*) power to prescribe returns (rule 50), and

(*c*) Power to make rules regarding river beds (rule 47); and

(ii) the following powers with regard to prospecting licences:—

(*a*) power to prescribe the fee for the inspection of registers of applications (rule 28), and

(*b*) power to prescribe returns (rule 29).

B.P. No. 201, dated 22nd May 1914.

(4-A) Any order passed by the Collector or District Forest Officer shall be subject to appeal and to revision in such manner and by such authority as the Local Government may prescribe by notification in the Local Government Gazette.

Note.—The Local Government have notified that the appeal and revision provided by this rule shall be regulated as follows:—

Against every order passed by the Collector under the mining rules an appeal shall lie to the Board of Revenue; such appeal to be filed within thirty days from the date of communication of the order. In computing the period of

limitation the day on which the order appealed against was passed and the time requisite for obtaining a copy of that order shall be excluded. A similar appeal shall lie to the Conservator of Forests against every order passed by a District Forest Officer under rules 31 and 51.

The Local Government may set aside, cancel or amend any order made under the Mining Rules by the Collector or District Forest Officer, or any order passed on appeal therefrom by the authority prescribed in sub-paragraph 1 above, within six months from the date of such original or appellate order.

(5) Nothing in these rules shall apply to minor minerals such as slate, building stone, limestone and clay, the extraction of which will continue to be regulated by such separate rules as the Local Government may lay down in accordance with local circumstances and requirements.

Note.—The separate rules in force in the Madras Presidency are given below:—

(1) In the case of lands falling within classes (*a*), (*b*), (*c*), (*g*) and (*h*) enumerated in paragraph 4 in Chapter V, applications will be disposed of by the Collector in cases in which the value of the minerals which it is sought to remove does not exceed Rs. 500 and in other cases by the Board of Revenue, who will submit for the orders of Government any case of special importance.

(2) In the case of lands falling within class (*d*) in paragraph 4, i.e., reserved forests, all quarrying and the removal of turf and earth by the public is prohibited except in accordance with permits granted under the Madras Forest Act, 1882. Departments of Government and local bodies may be allowed the privilege of quarrying free in reserved forests, subject to the control of the Forest department and subject also to the condition that the products removed are required for the use of the department concerned and not for disposal to the public or other departments. With the same restrictions, the privilege of free quarrying may be allowed to any contractor working under a Government department or local body but subject to the further proviso that the previous permission of the District Forest Officer shall be obtained in each case.

Where a local body desires that the exclusive right of quarrying in any such land should be reserved for it the land will as a rule be leased to the local body concerned subject to the payment of the ordinary assessment. Such leases should be in the form printed as Appendix XI * subject to suitable modifications.

(3) In the case of lands falling within class (*e*) in paragraph 4, i.e., reserved lands, the public may be allowed

* Pages 156–158.

to quarry free, provided, firstly, that such quarrying shall not injure any tree growth; secondly, that it may be prohibited in any area for any special reason; thirdly, that in the case of building stone, gravel, laterite and special clays for commercial uses it shall be subject to seigniorage fees as follows:—

	Per cart-load. RS. A. P.
Rough stone (including undressed burnt stone and every kind of stone that has not been chiselled)	0 1 0
Chiselled stone	0 2 0
Metal and gravel	0 0 6
Earth	0 0 6

(4) In the case of lands falling within class (*f*) in paragraph 4, i.e., unreserved waste lands, the public may be allowed to quarry free for *bona fide* domestic or agricultural purposes. Quarrying for other than *bona fide* domestic or agricultural purposes shall be subject to seigniorage fees as in the preceding clause. Quarrying and the removal of sand from river-beds may be allowed free of charge in the case of departments of Government, local boards and municipalities or contractors in their employ, provided, *firstly*, that the products removed are required and used solely for *bona fide* public purposes and not for sale or commercial profit, and *secondly* that the quarrying or removal shall be subject to any condition which the Collector may see fit to impose; with the same restrictions the privilege of free removal may be allowed to other public bodies, subject to the further proviso that the operations shall be conducted under the direct supervision of their establishments and not by contractors in their employ. In all other cases seigniorage fees as in the preceding clause will be charged. The Collector is empowered to close any quarry, or to reserve it for any particular department or local body, or to prohibit or regulate quarrying in any way, and he may require as a condition of the quarrying that the land shall afterwards be restored to a state fit for cultivation. Where a local body desires that the exclusive right of quarrying in any such land should be reserved for it, the land will, as a rule, be leased to the local body concerned, subject to the payment of the ordinary assessment. Such leases which should be in the form printed as Appendix XI* in Chapter VIII may be granted by the Collector unless they infringe the general conditions laid down in the Government of India (Finance and Commerce Department) Resolution 933-Ex., dated 20th February 1894. The relevant limitations laid down in this resolution are as follows:—

(i) If the lease is granted for more than five years it should be accompanied by an unconditional power of revocation by the Government at any time during such period on the expiry of six months' notice to that effect and it should

* Pages 156–158.

not impose on the revenues of India an annual liability in excess of five thousand rupees.

(ii) The case should not impose on such revenues a charge or expenditure or liability to damages in excess of *one lakh of rupees.*

(iii) The case should not involve the cession of property or rights the estimated value of which exceeds one lakh of rupees.

The Board may sanction similar leases in favour of private persons not being aliens subject to the condition that the lessee pays both ordinary assessment and the royalty which the Government may fix for the mineral in question. The *lease should be in the form printed* as Appendix XII* in Chapter VIII.

In cases where applications for leases of quarries are received from a number of persons and circumstances justifying the selection of a particular individual do not exist, the privilege of quarrying should be put up to auction.

G.O No. 608, dated 20th May 1892.
G.O. No. 947, dated 13th June 1892.
B.P. No. 401, dated 10th July 1893.
B.P. No. 204, dated 19th May 1894.
G.O. No. 379, dated 25th May 1897.
G.O. No. 3688, dated 17th December 1914.
G.O. No. 2694, Revenue, dated 28th November 1916.
G.O. No. 2919, Revenue, dated 17th September 1917.
G.O. No. 1605, *Revenue, dated 23rd August 1919.*

(5) Railway companies in this Presidency may be allowed the privilege of removing sand free of seigniorage from the beds of rivers, in places where it can be taken without objection and subject to any conditions which the District Collector may see fit to impose. This concession extends to any contractor working for a railway company provided that he obtains the Collector's permission in the Revenue or Forest department and so long as he satisfies him that sand is only removed for railway purposes.

G.O. No. 623, dated 15th September 1899.
B.P. No. 421, Forest, dated 7th October 1899.
G.O. No. 3364, dated 12th December 1908.

Note —Quarrying may, however, be prohibited absolutely or regulated by the Conservator of Rivers in the case of lands in river-beds to which the Madras Rivers Conservancy Act VI of 1884 has been extended and no quarrying or removal should be sanctioned by the Collector in such cases without consulting the Conservator *of Rivers.*

B.P. Mis. No. 2154, Revenue, dated 5th July 1928.
G.O. Mis. No. 1701, Revenue, dated 1st August 1928.

(6) All quarrying shall be confined to the ground vertically beneath the surface in respect of which permission is granted and no under-tunnelling beyond such limits will be permitted.

B.P. No. 601, dated 25th March 1881 (paragraph 7).
B.P. No. 114, dated 24th March 1896.

* Pages 159-163.

(6) The issue of exploring licences authorizing the surface of land to be searched for minerals having been discontinued, the surface of unoccupied and unreserved land which is the property of Government may be freely searched without authority. In the case of occupied land search can be made only [a] where this is permissible under the local law or rules or [a] with the consent of the occupier.

Provided that in the case of Baluchistan and the North-West Frontier Province no operations for the exploration of the surface of land for minerals shall be carried on except under a licence granted on such terms as the local administration may prescribe.

Note.

Exploring.—The free search permitted under this rule extends only to the collection of specimens, as for instance, by chipping the surface of rock with a hammer, and does not include substantial disturbance of the ground by excavation or clearing.

Exploring in Government forests.—Permission to enter Government forests must be obtained from the District Forest Officer. Such permission will not ordinarily be refused to persons holding certificates of approval and their agents.

Certificate of approval.

(7) No prospecting licence or mining lease shall be granted except to a person holding a certificate of approval from the Local Government, within whose jurisdiction the land lies for which the licence or lease is asked.

(8) A certificate of approval shall have effect from the date thereof, and shall expire at midnight on the 31st of December next following: provided that a certificate issued in the last quarter of the year shall be valid until the 31st of December of the year following. Only one person shall be named in the certificate. The fee payable therefor shall be Rs. 50, and the certificate shall cover applications in respect of minerals of all kinds.

(9) A certificate of approval may be renewed at the discretion of the Local Government on payment of a fee of Rs. 10, if the application for renewal is received within one month after the date of expiry of the original certificate. Otherwise the full fee of Rs. 50 shall be charged. The Local Government may delegate to any officer not below the rank of Collector the power to renew a certificate of approval on payment of the prescribed fee, in any case in which the certificate holder

[a] G.O. Mis. No. 1146, Development, dated 7th August 1926.
B.P. Mis. No. 1904, dated 20th August 1926.

has carried on operations under a prospecting licence or mining lease within the jurisdiction of the officer to whom the power is delegated.

Note.—In this Presidency the Local Government has delegated to Collectors the power to renew certificates of approval on payment of the prescribed fee, in cases in which the certificate holders have carried on operations under a prospecting licence or mining lease within their jurisdictions. The Collector's order is subject to appeal to the Board of Revenue and the Local Government may revise any order passed by the Collector or the Board of Revenue.

(10) The names of persons to whom certificates of approval have been granted shall be published in the Local Government Gazette, and every application for a prospecting licence or a mining lease shall contain a statement of the number and date of the Gazette notification of the certificate of approval.

(11) Before considering an application for a prospecting licence or a mining lease, the Collector shall verify the Gazette notification quoted, and shall refuse any application for a licence or a mining lease from a person not in possession of a valid certificate of approval: provided that the Collector may at his discretion require the production of the original certificate of approval.

(12) Licences or leases previously granted may be held by a grantee who is no longer in possession of a certificate of approval.

Note.—Applications for original certificates of approval should be made in the form printed in Appendix V* in Chapter VIII and should be addressed to the Secretary, Board of Revenue, Land Revenue and Settlement, through the Collector of the district in which the applicant resides or has his place of business.

The applicant should adduce evidence of—

(1) his British nationality,

(2) his intention to carry out *bona fide* prospecting or mining work, and

(3) his financial ability to do so.

The applicant should also state—

(*a*) his mining experience, if any, or, that of his manager, if he intends to employ one,

(*b*) whether he holds or has held a certificate of approval in any other province or State,

(*c*) whether he holds or has held a mining concession in any other province or State and

(*d*) the particular mineral or minerals for which and the district or districts in which he proposes to prospect or mine.

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* Page 109.

The applicant should pay the prescribed fee of Rs. 50 into the Local Government treasury and submit the receipt therefor along with his application. The application should bear a court-fee stamp of one rupee eight annas.

(2) The Collector of the district on receipt of an application should verify the statements made in it as far as possible and may require the applicant to produce further evidence in support of his application. He should then forward the application and the record of his enquiry to the Board with a brief report stating whether he recommends the grant or refusal of the certificate and the reasons for his recommendation. The reputation and character of the applicant are relevant in this connexion. Certificates of approval will be granted only to applicants of respectability and standing *who possess either a reasonable amount of capital or satisfactory mining experience.*

(3) The names of persons to whom certificates of approval are granted or whose certificates are renewed will be published in the *Fort St. George Gazette.*

(4) All applications for renewal should be addressed to the Collector of the district in which the applicant has been working and should be accompanied by a treasury receipt for the fee of Rs. 10. If, however, the applicant has not worked any mine during the previous year, the application should be forwarded to the Board through the Collector of the district in which he ordinarily resides. No certificate will be renewed if the applicant has, either by his conduct of mining operations or generally, given the authorities reason to consider that he is not a fit person to hold a mining concession.

G.O. Press No. 1457, Development, dated 18th August 1924.
B.P. Mis. No. 2140, dated 11th September 1924.

Part II.—Prospecting licences.

(13) A licence to prospect for minerals, called hereinafter a prospecting licence, shall confer on the licensee the sole right, subject to the conditions contained in the licence, to mine, quarry, bore, dig and search for, win, work and carry away any specified minerals or in the event of no minerals being specified all minerals lying, or being within, under or throughout the land specified in the licence.

(14) A prospecting licence shall be granted only in respect of land in which the mines, or minerals, are the property of Government.

(15) Every application for a prospecting licence shall, unless the Local Government shall in any case otherwise direct, be made to the Collector of the district in which the land or some part of the land with respect to which the licence is required is situate.

Note.—(1) Applications for prospecting licences shall be made in the form prescribed in Appendix VI* in Chapter VIII.

(2) Under the Court Fees Act, 1870, as amended by Madras Act V of 1922, the application should bear a court-fee stamp of twelve annas.

(16) Every such application shall contain the following particulars, namely:—

(a) The name, profession and residence of the applicant, if he is an individual; or if the applicant is a company, syndicate, partnership or private firm, its name, and nature and place of business; and if the place of business is outside India, the name and residence of a member or duly authorized agent resident in India.

(b) A description, illustrated by a map or plan, showing as accurately as possible the situation, boundaries and area of the land with respect to which the licence is required.

Note.—The map referred to in the above rule should be submitted in duplicate, and if the area required is Government forest, in triplicate. One copy is intended for record in the Collector's office, one for the applicant to be delivered back with the licence when executed and in case of forest areas one additional copy for the use of the District Forest Officer.

(c) A statement showing in such detail as may be required by the Local Government, the minerals for which the applicant intends to prospect.

[Correction Slip No. 248, dated 4th April 1928.]

(17) Should the applicant for a prospecting licence desire the Collector to prepare for him the map or plan required by the foregoing rule, or should the map or plan presented by the applicant be insufficient, the Collector may prepare the map or plan required, and may, if he so order, recover the cost from the applicant at such rate or rates as the Local Government may by general order prescribe.

Note.—In this Presidency the Local Government have directed that the following scale of fee shall be levied for surveying, demarcating and mapping areas applied for on all prospecting licences or mining leases including those for mica:—

(1) Blocks not exceeding 100 acres.	As. 4 per acre subject to a minimum fee of Rs. 3.
(2) Blocks exceeding 100 acres but not exceeding 320 acres.	Rs. 25 plus 3 annas on every acre in excess of 100 acres subject to a maximum of Rs. 60.

* Pages 110-111.

(3) Blocks exceeding 320 acres but not exceeding 640 acres.	Rs. 60 plus 2 annas on every acre in excess of 320 acres subject to a maximum of Rs. 90.
(4) Blocks exceeding 640 acres but not exceeding 960 acres.	Rs. 90 plus 2 annas on every acre in excess of 640 acres subject to a maximum of Rs. 120.

And so on.

This scale will apply to unsurveyed blocks as well as to surveyed fields of which subdivision sketches are required.

G.O. No. 1583, Development, dated 1st November 1923.
B P. No. 91, dated 30th November 1923.

(18) The Local Government may declare, in respect of any specified area, that in lieu of presenting an application containing the particulars required in rule (16) above, the applicant for a prospecting licence shall adopt the procedure set forth below, or such modification thereof as the Local Government may prescribe :—

(i) He shall, before forwarding his application to the Collector, demarcate the area applied for in the following method :—

(*a*) At every angle or corner of each boundary line or as near thereto as is practicable, he shall fix pegs of substantial material, standing not less than two feet above the surface of the ground, and being not less than three inches square or three inches in diameter.

(*b*) If pegs be not obtainable, he may use instead cairns of stones or mounds of earth, having in each case a height of not less than two feet and a diameter at the base of not less than two feet.

(*c*) The direction of the boundary line on each side of each peg, cairn or mound shall be indicated with reasonable care by a trench having a length of four feet, and a breadth and depth of not less than six inches: provided that if trenches cannot be conveniently cut, the direction of the boundary lines shall be indicated by finger posts, or in any other manner suitable for the purpose.

(*d*) The pegs, cairns or mounds shall bear or have affixed thereto some distinguishing mark which shall be described in the application.

(*e*) In the case of an application for land on the sea-shore, it shall not be necessary to mark out the land below high-water level.

(*f*) No peg, cairn, mound, or other mark employed in marking out the land applied for, shall be removed or defaced after the application shall have been filed, without the permission of the Collector.

(ii) The application to the Collector shall contain the following particulars, viz.:—

(*a*) The name, profession and residence of the applicant, if he is an individual; or if the applicant is a company, syndicate, partnership or private firm, its name, and nature and place of business, and if the place of business is outside India, the name and residence of a member or duly authorized agent resident in India.

(*b*) A description, as accurate as possible, and illustrated by a sketch, of the situation, boundaries and area of the land with respect to which the licence is required.

(*c*) A description of the distinguishing mark on the pegs, cairns or mounds constructed to mark out the boundaries of the concession applied for.

(*d*) The date of marking out the concession applied for.

(*e*) A statement showing in such detail as may be required by the local Government, the minerals for which the applicant intends to prospect.

[Correction Slip No. 248, dated 4th April 1927.]

(iii) The application shall be accompanied by a deposit at such rate or rates as the Local Government may by general order prescribe to meet the cost of survey of the area.

(iv) Unless the Collector is of opinion that it is not expedient to grant the licence, he shall, as soon as possible after the receipt of the application, cause the land applied for to be surveyed at the expense of the applicant, and the area and all other details ascertained in the course of such survey shall be presumed to be correct: Provided that the Collector may at his discretion dispense with such survey, if the boundaries of the area applied for conform to boundaries already ascertained in a Government survey, e.g., the boundaries of survey numbers in a revenue survey.

Note.—No declaration under the opening sentence of this rule (18) has been made in this Presidency.

(19) On receipt of any application under rule (16) or rule (18) the Collector, or such officer as he may authorize to do so, shall note thereon the date and hour

of its receipt, and shall deliver to the applicant an acknowledgment stating the date and hour of receipt.

(20) The Collector shall then, as soon as practicable, inquire whether the grant of the licence applied for is inexpedient, either on the ground that the land described in the application is required for a public purpose or otherwise.

Note.—Mining operations are ordinarily prohibited over roads, tanks, tank embankments, building sites, burial grounds, etc. [Vide rule 30 (V).] Applications for the grant of prospecting licences over any area are also liable to refusal for any of the following reasons:—

(*a*) That the land is more valuable as cultivated land and that it may be permanently ruined by the proposed mining operations.

(*b*) That it supports specially valuable forest growth.

(*c*) That the concession applied for will interfere with some existing or projected irrigation or other work.

(*d*) That the land is likely to be needed for some other public purpose.

(21) Should the Collector be of opinion that it is not expedient to grant the licence, he shall refuse to grant it.

(22) Subject to the control of the Local Government, the Collector, if he finds that the applicant is in possession of a valid certificate of approval and that there is no objection to the grant of the licence applied for, may grant to the applicant a licence in such form as may be prescribed.

Note.—(1) For a model form of prospecting licence see Appendix VII * in Chapter VIII.

(2) Every prospecting licence shall be restricted to such area as is reasonably required for *bona fide* prospecting purposes. In determining this area, Collectors should have regard to the character of the minerals to be prospected for and to the means at the disposal of the prospector. If the area applied for exceeds the extent specified in the margin, the Collector should make a reference to the Board of Revenue before granting the licence.

	SQ. MLS.		SQ. MLS.
Coal ..	4	Precious stones ..	1
Oil ..	2	Mica ..	1
Gold or silver	1		
Metals ..	1		

(23) In the case of two or more applications affecting the same land, the prior right to a licence shall, subject to any order to the contrary which the Local Government may in its discretion pass in any particular case, be deemed to lie with the applicant, who being the

* Pages 112–126.

holder of a valid certificate of approval and after compliance with the procedure prescribed by the rules, shall have been the first to file his application with the Collector.

Note.—When both an application or applications for a prospecting licence and an application or applications for a mining lease are presented in respect of the same area, the applicants for a mining lease not being in possession nor having applied for a prospecting licence in respect of that area, the prior right to the concession, whether licence or lease, shall, subject to any order which the Local Government may pass in any particular case, be deemed to be with the applicant who, being the holder of a valid certificate of approval and after compliance with the procedure prescribed by the rules, shall have been the first to file his application with the Collector.

(24) Every applicant shall, before the licence is granted, deposit as security in respect of such licence, a sum of Rs. 100 per square mile or part of a square mile of the area covered by the licence, or, with the Collector's permission, give security to a like amount to the satisfaction of the Collector.

(25) Subject to such deduction on account of compensation for surface damage, penalty or otherwise as the Collector may order, the amount of any deposit made under the foregoing rule, should the depositor afterwards be granted a mining lease, will be carried to his credit as part of the rents, royalties or deposit money payable under the lease. Or should he decline to receive or fail to obtain any such lease as aforesaid, the amount will be returned to him on his satisfying the Collector that the condition in rule (30) (*viii*) has been complied with and on his furnishing the Collector with the information required by rule (33).

(26) If a licence is not executed within three months after leave has been granted for it, the right of the applicant to such licence shall be held to have lapsed, unless the Local Government, for special reasons, consents to grant the same notwithstanding the delay or considers that the delay is not attributable to the applicant.

(27) A register of applications for prospecting licences shall be kept in English in the Collector's office, specifying—

(1) Serial number,
(2) Name of applicant,

(3) Residence of applicant,

(4) Date and number of certificate of approval granted to applicant,

(5) Date of application,

(6) If application received incomplete, the date of completion,

(7) Situation and boundaries of the land,

(8) Estimated area,

(9) The minerals for which the applicant desires to prospect.

[Correction Slip No. 248, 4th April 1927.]

(10) Date of licence if granted (or date of order of refusal),

(11) Period for which granted, with note as to renewal or extension,

(12) Fee and royalty payable under rule (30) (ii) and (iii),

(13) Amount of deposit, and

(14) Particulars of disposal or refund of deposit.

(28) The register shall be open to inspection by any holder of a valid certificate of approval or his duly authorized representative, on payment of such fee as the Local Government may prescribe.

Note.—In this Presidency a fee of one rupee has been prescribed by the Local Government for the inspection, by a person holding a valid certificate of approval or his duly authorized representative, of the registers of prospecting licences.

(29) A return of licences granted or refused shall be submitted by the Collector at such intervals and to such authority as the Local Government may direct.

Note.—By the 31st January succeeding each year a statement of applications for prospecting licences and mining leases disposed of during the year should be submitted by the Collectors in the form prescribed in Appendix XIII* in Chapter VIII. By the end of February the Board of Revenue will submit to the Government for transmission to the Government of India a consolidated return for the whole Presidency.

G.O. No. 10, Development, dated 3rd January 1924.
B.P. No. 6, Press, dated 31st January 1924.

(30) Every prospecting licence shall contain such conditions as may in any particular case seem necessary, and shall in all cases contain the following conditions:—

(i) The licence shall be granted for such term as the applicant may desire, subject to a maximum of

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* Page 164.

two years if the licence grants, or includes the right to prospect for natural petroleum or natural gas and of one year in other cases. If the Collector is satisfied that a longer period is required in order to enable the licensee to complete his search of the land, he may renew the licence for one or more further term or terms not exceeding one year each up to a total period of three years from the date of commencement of the original licence and if the licensee is engaged in prospecting for natural petroleum or natural gas the Collector may, in respect of those minerals, only further extend it by similar terms up to a total period of five years from the date of commencement of the original licence.

Provided that, when the licensee has, before the termination of the period of the licence, applied for the grant of a mining lease, the Collector may further extend the period of the licence until a mining lease is granted or for such time as he may deem fit.

(ii) The licensee shall pay a fee not exceeding one rupee and not less than one anna per acre of the land covered by the licence for each year or portion of a year of the term for which the licence is granted. When a licence is renewed under the last foregoing condition a fresh fee shall be payable, subject to the same maximum and minimum charge, for each year or part of a year for which the licence is renewed. But no fee shall be payable for an extension of the term of licence under the proviso to that condition.

(iii) The licensee shall pay royalty at a rate not exceeding 15 per cent of the value on all precious stones won and carried away, and a royalty at the rates specified in Schedule A* in Part IV of these rules on all other minerals won and carried away over and above such quantity as is allowed in Schedule B† to be taken free for purposes of experiment.

Note.—In this Presidency, the Local Government have prescribed that for the purpose of ascertaining the value of precious stones won and carried away, on which royalty should be paid, the licensee should produce valuation certificate from approved valuers of precious stones.

G.O. Mis. No. 2144, *Development, dated 13th December 1927.*

(iv) The licensee shall make and pay such reasonable satisfaction and compensation, as may be assessed by lawful authority in accordance with the law

* Pages 83-85. † Pages 85-86.

in force on the subject applying to the lands over which the licence has been granted, for all damage, injury or disturbance which may be done by him in exercise of the powers granted by the licence, and shall indemnify the Government against all claims which may be made by third parties in respect of any such damage, injury or disturbance.

Note.—(1) The powers necessary for the proper enjoyment of minerals, the property of Government, together with the methods according to which such powers are to be exercised by Government, or by its assignees are governed by the law for the time being in force in each province. Where the law confers such powers on the Local Government or its assignees, the Local Government may make local rules indicating the conditions on which licensees shall have right of access to minerals, the right to use of water in connexion with the working thereof, and the like.

(2) In this Presidency, in the case of lands specified in clause (*a*) of paragraph 4 in Chapter V supra and in such of the lands referred to in clauses (*g*) and (*h*) as were assigned after the issue of G.O. No. 1306, Development, dated 26th September 1922, Government have reserved to themselves or to persons authorized by them the powers necessary for the proper working of the minerals subject to the payment or rendering of compensation to the surface owner for all damages that he may sustain by the exercise of such rights. In all other cases, the lessee or the licensee should make his own arrangements with the occupants of the land for the acquisition of surface rights.

G.O. Mis. No. 1025, Revenue, dated 2nd July 1923.
B P. No. 52, Press, dated 18th July 1923.

(3) In all prospecting licences issued in respect of lands in which the State has surface rights, the right will be reserved to Government to make surface roads over any block included in the licence.

(v) The licensee shall not cut or injure any tree on unoccupied and unreserved land without the permission in writing of the Collector, or of such officer or officers as he may appoint; nor, without the permission of the Collector, shall he disturb the surface of any road, or enter on any public pleasure ground, burning or burying ground, or place held sacred by any class of persons, or interfere with any right-of-way, well or tank.

(vi) The licensee may, with the previous sanction of the Local Government, assign his licence or transfer any right or interest thereunder to a person holding a valid certificate of approval, subject to the

condition that every such assignment or transfer shall, within three calendar months from the date of its completion, be registered in the office of the Collector on payment of a fee of fifty rupees.

Note.—When a licence is transferred an agreement should be entered into by the transferee in the form given in Appendix VIII* in Chapter VIII.

(vii) In case of any breach on the part of the licensee or his transferee or assignee of any of the preceding clauses, the Collector may summarily revoke the licence, and thereupon all rights conferred thereby or enjoyed thereunder shall cease; or, should he see fit, he may, in lieu thereof, declare to be forfeited to Government the whole or any part of the deposit made by the licensee under rule (24).

(viii) Save in the case of land over which the licensee shall have been granted a mining lease on or before the determination of the licence, he shall within six months next after the determination of the licence or the date of the abandonment of the undertaking, whichever shall first occur, securely plug any bores and fill up or fence any holes or excavations that he may have made in the land to such extent as the Collector may require, and shall to the like extent restore the surface of the land and all buildings thereon which he may have damaged in the course of prospecting:

Provided that the licensee shall not be compelled to restore the surface of land or any buildings in respect of which full and proper compensation has already been paid under condition (iv).

(ix) Should any question or dispute arise regarding the licence, or any matter or thing connected therewith or the powers of the licensee thereunder, or the amount or payment of the fee or royalty made payable thereby, the matter in difference shall be decided by the Local Government whose decision shall be final.

(31) All operations conducted under the authority of these rules within a reserved or protected forest shall be subject to such conditions as the Local Government may by general or special order from time to time prescribe. It shall be a condition of every licence granted under these rules that, before the commencement of prospecting within a reserved or protected forest, thirty days' notice shall be given to the District Forest Officer

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* Page 127.

of the intention to commence operations, and that the operations shall be conducted subject to any conditions regarding the use of fire that he may prescribe.

(32) On or before the determination of his licence, the licensee shall have a right—

(*a*) in the case of minerals other than precious stones, to a mining lease in accordance with the terms contained in the rules for mining leases;

(*b*) in the case of precious stones, to the first offer of such mining lease as the Governor-General in Council may think fit to grant.

Such lease may include so much land, comprising the whole or a part only of the area for which the prospecting licence was granted as shall not exceed the area specified with respect to mining leases in rule (45).

(33) If so required by the Collector, the licensee shall, before the deposit made under rule (24) is returned to him, disclose confidentially to the Collector all information acquired in the course of the operations carried on under the licence, regarding the minerals contained in, or the geological formation of, any area not taken up by him under a mining lease.

Part III.—Mining leases.

(34) Every application for the grant of a mining lease, not being a lease of a mine of precious stones, shall be presented to the Collector in whose district the land or some part of the land with respect to which the lease is required is situate. The Collector shall forward the application through the proper channel to the Local Government.

Note.—Applications for mining leases shall be made in the form prescribed in Appendix VI * in Chapter VIII.

(2) Under the Court Fees Act, 1870, as amended by Madras Act V of 1922, the application should bear a Court-fee stamp of twelve annas.

(35) A mining lease shall be granted only in respect of land in which the mines or minerals are the property of Government.

(36) With the application, the applicant shall deposit as security in respect of preliminary expenses such sum, not exceeding Rs. 500, as the Collector may determine, or, with the Collector's permission, give security to the like amount to the satisfaction of the Collector. If

* Pages 110-111.

the application relates to an area for which the applicant holds a prospecting licence, any amount held in deposit under rule 24 in respect of such prospecting licence will be carried to his account.

(37) The amount of any deposit made under rule (*36*), less any expenses incurred by or on behalf of Government, will, if the depositor be granted a mining lease, be carried to his credit as part of the rent or royalties payable under the lease, or, if he declines or fails to obtain any such lease as aforesaid, will be returned to him.

Note.—The proviso to clause (1) of Part VI of the standard form of mining lease printed as Appendix IX * in Chapter VIII, which makes provision for the disposal of any cash deposit made under rule (36) cannot be altered or omitted except when no cash deposit has been made.

In cases, however, where a cash deposit has been made but the Local Government intend in their discretion to omit the main clause (1) of Part VI the proviso to the clause should be retained in the lease with the omission of the words "Provided always and".

(38) Every application for a mining lease shall contain the following particulars, namely :—

(*a*) the name, residence and profession of the applicant if he is an individual, or if the applicant is a company, syndicate, private firm or partnership, its name and nature and place of business, and, if the place of business is outside India, the name and residence of a member or duly authorized agent resident in India;

(*b*) a specification of the mineral or minerals for which the applicant intends to mine;

(*c*) a description, illustrated by a map or plan, showing as accurately as possible the situation, boundaries and area of the land with respect to which the lease is required;

Note.—The instruction relating to maps in the note under rule 16 (*b*) will apply to the maps required under this clause.

(*d*) a statement showing all areas within the jurisdiction of the Local Government already held by the applicant or by any person joint in interest with him in prospecting or mining right;

(*e*) the period for which the lease is required.

* Pages 128-153.

(39) Should the applicant for a mining lease desire the Collector to prepare for him the map or plan required by the foregoing rule, or should the map or plan presented by the applicant be insufficient, the Collector may prepare the map or plan required, and may, if he so order, recover the cost from the applicant at such rate or rates as the Local Government may by general order prescribe.

Note.—(1) It shall be competent to the Local Government by general order to direct that an accurate survey be made at the expense of the lessee of all land granted on mining lease, if a map or plan has not been already prepared by the Collector. Such survey may be made at any time after it is decided to grant the lease, the object being to secure an authoritative record of the area covered by the lease.

(2) For the rate of fee prescribed by the Local Government see the note under rule (17) above.

(40) The Local Government may declare, in respect of any specified area, that in lieu of presenting an application containing the particulars required in rule (38) above, every applicant for a mining lease over an area in respect of which he is not already in possession of or has not submitted an application for a prospecting licence, shall adopt the procedure set forth below, or such modification thereof as the Local Government may prescribe :—

(i) He shall, before forwarding his application to the Collector, demarcate the area applied for in the following method :—

(*a*) At every angle or corner of each boundary line, or as near thereto as is practicable, he shall fix pegs of substantial material standing out not less than two feet above the surface of the ground, and being not less than three inches square or three inches in diameter.

(*b*) If pegs be not obtainable, he may use instead cairns of stones or mounds of earth having in each case a height of not less than two feet and a diameter at the base of not less than two feet.

(*c*) The direction of the boundary line on each side of each peg, cairn or mound shall be indicated with reasonable care by a trench having a length of four feet, and a breadth and depth of not less than six inches, provided that, if trenches cannot be conveniently cut,

the direction of the boundary line shall be indicated by finger posts, or in any other manner suitable for the purpose.

(*d*) The pegs, cairns or mounds shall bear or have affixed thereto some distinguishing mark which shall be described in the application.

(*e*) In the case of an application for land on the seashore, it shall not be necessary to mark out the land below high-water level.

(*f*) No peg, cairn, mound, or other mark employed in marking out the land applied for shall be removed or defaced after the application shall have been filed, without the permission of the Collector.

(ii) The application to the Collector shall contain the following particulars, viz.—

(*a*) The name, profession and residence of the applicant, if he is an individual; or if the applicant is a company, syndicate, partnership or private firm, its name and nature and place of business, and if the place of business is outside India, the name and residence of a member or duly authorized agent resident in India.

(*b*) A description, as accurate as possible, and illustrated by a sketch, of the situation, boundaries and area of the land with respect to which the lease is required.

(*c*) A description of the distinguishing mark on the pegs, cairns or mounds constructed to mark out the boundaries of the concession applied for.

(*d*) The date of marking out the concession applied for.

(*e*) A specification of the mineral or minerals for which the applicant intends to mine.

(*f*) A statement showing all areas within the jurisdiction of the Local Government already held by the applicant or any person joint in interest with him in prospecting or mining right.

(*g*) The period for which the lease is required.

(iii) The application shall be accompanied by such deposit, in addition to that prescribed in rule (36) above, as the Local Government may by general or special order declare to be required to meet the cost of survey of the area.

(iv) The Collector shall, as soon as possible after the receipt of the application, cause the land applied for to be surveyed at the expense of the applicant, and the area and all other details ascertained in the course of such survey shall be presumed to be correct.

(41) On receipt of any application under rule (38) or (40) above, the Collector, or such officer as he may authorize to do so, shall note thereon the date and hour of its receipt, and shall deliver to the applicant an acknowledgment stating the date and hour of receipt.

(42) In the case of two or more applications affecting the same land and presented by applicants who are not in possession of, or have not applied for, prospecting licences in respect thereof, the prior right to a lease shall, subject to any order which the Local Government may pass in any particular case, be deemed to lie with the applicant who, being the holder of a valid certificate of approval and after compliance with the procedure prescribed by the rules, shall have been the first to file his application with the Collector.

Note.—When both an application or applications for a prospecting licence and an application or applications for a mining lease are presented in respect of the same area, the applicants for a mining lease not being in possession nor having applied for a prospecting licence in respect of that area, the prior right to the concession, whether licence or lease, shall, subject to any order which the Local Government may pass in any particular case, be deemed to be with the applicant, who, being the holder of a valid certificate of approval and after compliance with the procedure prescribed by the rules, shall have been the first to file his application with the Collector.

(43) A register of applications for mining leases shall be kept in English in the Collector's office specifying, as far as may be, the matters prescribed by rule (27) for the register of applications for prospecting licences.

(44) The register shall be open to inspection by any holder of a certificate of approval or his duly authorized representative on payment of such fee as the Local Government may prescribe.

Note.—In this Presidency a fee of one rupee has been prescribed by the Local Government for the inspection, by a person holding a valid certificate of approval or his duly authorized representative, of the registers of mining leases.

(45) On receipt of the application from the Collector, the Local Government may, if the applicant is entitled to a lease under rule (32), or if it considers that the applicant should be granted a mining lease, grant the same in accordance with these rules over such area as it may think fit:

Provided that no mining lease shall be granted by the Local Government under these rules so as to cause the total area held under mining leases for minerals of whatsoever kind by the lessee or by those joint in interest with him to exceed ten square miles within the territories administered by the Local Government.

Provided also that in the case of natural petroleum (including natural gas) the Local Government shall not grant to any one lessee or those joint in interest with him leases for any area exceeding 150 square miles within the territories administered by it.

(45-A) No assignment of a mining lease or transfer of any right or interest thereunder shall be sanctioned by the Local Government except to a person holding a valid certificate of approval and subject to the condition that the total area (including the area to be assigned or transferred) held under mining leases by the assignee or transferee or those joint in interest with the assignee or transferee within the territories administered by the Local Government shall not exceed 150 square miles in the case of natural petroleum [a] (including natural gas) [a] or 10 square miles in the case of minerals other than natural petroleum (including natural gas).

(46) If a lease is not executed within six months after leave has been granted for it, the right of the applicant to such lease shall be held to have lapsed, unless the Local Government for special reasons consents to grant the same notwithstanding the delay, or considers that the delay is not attributable to the applicant.

Note.—(1) Every lease shall before it is executed be approved by the Advocate-General or other legal adviser, if any, appointed for the Province.

(2) Mica mining leases when executed in all respects in the model from prescribed in Appendix XVI[b] in Chapter VIII, need not be subjected to technical scrutiny by a legal adviser. If in any case the lease deviates from the model form technical legal scrutiny is essential.

G.O. No. 1238, Development, dated 16th September 1922.
B.P. Mis. No 1945, dated 11th October 1922.

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[a] G.O. Mis. No. 1223, Development, dated 20th August 1926.
B.P. Mis. No. 2174, dated 28th September 1926.
(b) Pages 168-191

(47) Without the previous sanction of the Governor-General in Council, the length of an area held under the mining lease shall not be allowed to exceed four times its breadth:

Provided that this rule shall not apply to areas in river beds held on lease for dredging purposes, in respect of which the Local Government may, with the sanction of the Governor-General in Council, make rules as to the dimensions and shape of areas for which such leases may be granted.

Provided also that the Governor-General in Council may delegate to the Local Government the power to grant exemption from the operation of this rule in respect of specified minerals and subject to such restrictions as to limit of length or otherwise as he may think fit.

Note.—The Government of India have delegated to the Local Government the power referred to in the second proviso without any restriction in regard to the nature of the mineral or the shape of the area in question subject to the condition that in every case in which it is proposed to relax the rule the previous assent of the Director, Geological Survey of India, shall be obtained, and that any case in which the Local Government differs from the opinion of the Director, Geological Survey of India, shall be referred for the orders of the Government of India.

G.O. Mis. No. 1330, Development, dated 24th July 1924.
B.P. Mis. No. 1843, dated 6th August 1924.

(48) The boundaries below the surface of all areas given out on mining lease under these rules shall be considered to run vertically downwards towards the centre of the earth.

(49) The term for which a mining lease may be granted shall not exceed 30 years, but the lease may contain a clause permitting renewal for a period not exceeding 30 years, on a dead and surface rent not exceeding twice the original dead and surface rent respectively, the royalty payable being that which may on the day next following that on which the original lease shall determine, be in force under the orders of competent authority; in the case of iron-ore the original lease may also contain a clause permitting a second renewal for a further period not exceeding 30 years on a dead and surface rent not exceeding twice the dead and surface rent respectively fixed for the first renewal of the lease,

the royalty payable being that which may on the day next following that on which the first renewal shall determine be in force under the orders of competent authority.

G.O. Mis. No. 742, Development, dated 11th April 1924.
B.P. No. 37, Press, dated 12th May 1924.

(50) Every mining lease shall contain such conditions and stipulations as the Local Government may in each case consider necessary; and shall in every case contain the following conditions, namely:—

(i) The lessee shall pay a royalty or royalties at the rate specified in the lease, which rate or rates shall be those fixed for the particular mineral or minerals in Schedule A of these rules, and if any other mineral shall be discovered by him, then the royalty shall be paid therefor at such rate, not being less than 20 per cent of the value thereof, as the Local Government may determine, until a mining lease has been obtained in respect of such mineral; but the lessee shall be entitled within twelve months from the discovery of such mineral to require and obtain such lease for the term then unexpired of his original lease; provided that, if he declines to take a lease as above provided, the Local Government may give a lease in respect of such mineral to any other person.

(ii) The lessee shall also pay for every year after the first year a fixed yearly dead rent at a rate not less than that laid down in Schedule C of these rules; provided that no lessee shall pay both royalty and dead rent in respect of the same lease, but only such one of them as may be of the greater amount; and provided further in the cases of leases for iron-ore that when a lessee is granted more than one such lease he may, if he so desire, claim that for the purpose of determining whether royalty or dead rent is payable, all such leases granted to him shall be treated as one concession. In that event he shall be liable to pay dead rent only when the sum of the royalties paid by him in respect of such leases for the year is less than the sum of the dead rents assessed under those leases or is less than such other amount as the Local Government, having regard to the circumstances of the case, may fix as the combined dead rent in respect of all the leases; and the amount of dead rent so payable shall be the amount by which the sum of

the royalties paid for the year falls short of the sum of the dead rents or the combined dead rent so determined.

G.O. Mis. No. 742, Development, dated 11th April 1924.
B.P. No. 37, Press, dated 12th May 1925.

(iii) The lessee shall also pay for all land which he may use or occupy superficially for the purpose of the mine a surface rent at the rate specified in Schedule D.

G O. No. 837, Development, dated 8th June 1925.
B P. Mis. No. 1398, dated 30th June 1925.

(iv) The lessee shall at his own expense erect and at all times maintain and keep in repair boundary marks and pillars according to the demarcation to be shown in a plan annexed to his lease.

(v) The lessee shall make and pay such reasonable satisfaction and compensation as may be assessed by lawful authority in accordance with the law in force on the subject applying to the lands over which the lease has been granted, for all damage, injury or disturbance which may be done by him in exercise of the powers granted by the lease, and shall indemnify the Government against all claims which may be made by third parties in respect of any such damage, injury or disturbance.

Note.—(1) The powers necessary for the proper enjoyment of minerals, the property of Government, together with the methods according to which such powers are to be exercised by Government or by its assignees, are governed by the law for the time being in force in each province. Where the law confers such powers on the Local Government or its assignees, the Local Government may make local rules indicating the conditions on which lessees shall have right of access to minerals, the right to use of water in connexion with the working thereof and the like.

(2) In this Presidency, in the case of lands specified in clause (*a*) of paragraph 4 in Chapter V supra and in such of the lands referred to in clauses (*g*) and (*h*) as were assigned after the issue of G.O. No. 1306, Development, dated 26th September 1922, Government have reserved to themselves or to persons authorized by them the powers necessary for the proper working of the mineral subject to the payment or rendering of compensation to the surface owner for all damages that he may sustain by the exercise of such rights. In all other cases, the lessee or the licensee should make his own arrangements with the occupants of the land for the acquisition of surface rights.

G.O. Mis. No. 1025, Revenue, dated 2nd July 1923.
B.P. No. 52, Press, dated 18th July 1923.

(3) In all mining leases issued in respect of lands in which the State has surface rights, the right will be reserved to Government to make surface roads over any block included in the lease.

(vi) The lessee shall not cut or injure any tree reserved in the lease.

(vii) The lessee may, with the previous sanction of the Local Government, assign his lease or transfer any right or interest thereunder, subject to the condition that every such assignment or transfer shall within three calendar months from the date of its completion be registered in the office of the Collector on payment of a fee of fifty rupees.

Note.—When a lease is transferred an agreement should be entered into by the transferee in the form given in Appendix X* in Chapter VIII.

(viii) Unless good cause exists for exemption from this condition, a question, on which the decision of the Local Government shall be final, the lessee shall commence operations within one year from the date of the execution of the lease and shall thereafter carry them on effectually in a proper, skilful and mining like manner. Should the lessee cease without such cause to work the mine for a period exceeding two years in such a manner as to produce sufficient mineral to earn a royalty at least equal to the dead rent, it shall be deemed a breach of this condition.

Note.—For the purpose of the first part of this condition, such measures as the erection of machinery for the purposes of working the mine, although not necessarily on the land covered by the lease, or the construction of roads or tramways in connexion with the mine, shall be deemed to be sufficient compliance with the requirement of commencing operations.

G.O. No. 742, Development, dated 11th April 1924.
B.P. No. 37, dated 12th May 1924.

(ix) The lessee shall keep correct accounts showing the quantity and particulars of all minerals obtained from the mine and the number of persons employed therein, and also complete plans of the mine, and shall allow any officer authorized by the Local Government in that behalf at any time to examine such accounts and plans, and shall furnish the Local Government with such information and returns in respect of the aforesaid matter as it may prescribe.

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* Pages 154–166.

(x) The lessee shall allow existing and future licence or lease-holders of any land which is comprised in or adjoins or is reached by the land held by the lessee reasonable facilities of access thereto.

(xi) The lessee shall allow any officer authorized by the Local Government in that behalf to enter upon the premises comprised in the lease for the purpose of inspecting the same.

(xii) The lessee shall without delay report to the Collector the discovery on or within any of the lands or mines demised by the lease of any mineral not specified in the lease.

(xiii) Should the royalty or rent reserved or made payable by the lease be not paid within two months next after the date fixed in the lease for the payment of the same, the Local Government may enter upon the said premises and distrain all or any of the minerals or movable property therein, and may order the sale of the property so distrained or so much of it as will suffice for the satisfaction of the rent or royalty due and all costs and expenses occasioned by the non-payment thereof; and, if any royalty or rent remain at any time unpaid for six calendar months after the date on which it is due, the Local Government may determine the lease and take possession of the premises comprised therein.

(xiv) In case of any breach on the part of the lessee of any covenant or condition contained in the lease, the Local Government may determine the lease and take possession of the said premises; or, in the alternative, may accept payment of a penalty, not exceeding twice the amount of the annual dead rent from the lessee.

(xv) At the end or sooner determination of the lease, the lessee shall deliver up the said premises and all mines (if any) dug therein in a proper and workmanlike state, save in respect of any working as to which the Local Government may have sanctioned abandonment.

(xvi) Should any question or dispute arise regarding the lease or any matter or thing connected with the mines and minerals leased or the working or nonworking thereof or the amount or payment of the royalty or rent reserved or made payable by the lease, the matter in difference shall be decided by the Local Government, whose decision thereon shall be final.

(51) All operations conducted under the authority of these rules within a reserved or protected forest shall be subject to such conditions as the Local Government may by general or special order from time to time prescribe. It shall be a condition of every lease granted under these rules that before the commencement of work within a reserved or protected forest 30 days' notice shall be given to the District Forest Officer of the intention to commence operations, and that the operations shall be conducted subject to any conditions regarding the use of fire that he may prescribe.

(52) Every mining lease which includes any portion of a reserved or protected forest shall, if it authorizes the lessee to fell timber for mining purposes, specify the area within which, or the quantity up to which, and the terms and conditions upon which, he may exercise that authority.

(53) No lease of a mine of precious stones shall be granted except by the Governor-General in Council. The procedure for obtaining, and the conditions of, such lease shall be those prescribed by rules (34) to (50), read as if "the Governor-General in Council" were substituted for "the Local Government."

(54) The lessee shall be at liberty to determine the lease at any time on giving not less than twelve calendar months' notice in writing to the Collector; and upon the expiration of such notice, provided that all sums due on account of the lease shall have been paid, the lease shall be determined. When a lessee exercises his option of determining a lease, he shall not, [a]except with the previous sanction of the Governor-General in Council[a] be granted subsequently a new lease over a portion only of the land covered by the original lease.

G.O. No. 1323, dated 8th May 1914.

Part III-A.—Miscellaneous.

(55) When both an application or applications for a prospecting licence and an application or applications for a mining lease are presented in respect of the same area the applicant or applicants for a mining lease not being in possession of a prospecting licence in respect of that

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[a] G.O. Mis. No. 1054, Development, dated 4th June 1924.
P.P. Mis. No. 1464, dated 23rd June 1924.

area, the prior right to the concession whether licence or lease, shall subject to any order which the Local Government may pass in any particular case, be deemed to lie with the applicant who, being the holder of a valid certificate of approval and after compliance with the procedure prescribed by the rules, shall have been the first to file his application with the Collector; provided that if the prior right to the concession is held to lie with an applicant for a lease the Local Government may, in its discretion, grant him a licence instead.

(56) In cases where a prospecting licence or mining lease has been cancelled, the Local Government may, notwithstanding anything to the contrary hereinafter contained, offer a fresh concession, either in the form of a prospecting licence or a mining lease, over the whole or a portion of the area covered by the original licence or lease and may sell such concession by auction or private treaty or by any other method which they consider to be suitable.

Provided that—

(i) the person to whom the concession is sold shall be the holder of a valid certificate of approval;

(ii) save for the payment of an initial premium the terms of sale shall conform in every respect to the provisions of rules 24–26 and 30–33 in the case of a prospecting licence and to the provisions of rules 45–54 in the case of a mining lease, as the case may be.

Part IV.—Rents and Royalties.

Schedule A.—Royalties—Rules (30) (*iii*) *and* (50) (*i*).

Coal, exclusive of dust and coal used on the works.	5 per cent on the sale value at the pit's mouth, with a minimum of 2 annas per ton.
Coal dust ...	Half the rates fixed for coal.
Mica	5 per cent on the sale value.*
Natural petroleum	5 per cent on the well-head value (convertible at the option of the Local Government to an equivalent charge per 40 gallons to be fixed annually) subject to a minimum of 8 annas per 40 gallons.
Natural gas ...	If sold by licensee or lessee or if utilized by him for any other purpose than the production of natural petroleum or natural gas—5 per cent on the well-head value.

* For scale of sale value of mica—vide Appendix XIV in Chapter VIII.

	On gas converted into gasoline the well-head value shall be calculated on the volume of gasoline manufactured; it shall be deemed to be equivalent to the selling value of the gasoline less the cost of manufacture and the royalty shall be subject to a minimum of 8 annas per 40 gallons of gasoline manufactured: Provided that the 5 per cent royalty rate shall be convertible at the option of the Local Government to an equivalent charge per 40 gallons of gasoline (not being less than 8 annas) or per 1,000 cubic feet of gas, as the case may be, to be fixed annually.
Oil shale—	
(*a*) When the oil is extracted by the licensee or lessee within the *territories* administered by the Local Government granting the concession.	Eight annas per 40 gallons of crude oil obtained therefrom.
(*b*) In other cases.	Re. 1 per ton of shale mined.
Gold and silver ...	$7\frac{1}{2}$ per cent on the profits* of each year taken separately or $2\frac{1}{2}$ per cent on the gross value, at the option of the Local Government.
Iron-ore intended to be used for the extraction of iron.	One anna per ton of iron-ore during the year for which the tariff valuation of imported pig-iron has been fixed at Rs. 65 per ton or less. When the tariff valuation exceeds Rs. 65 one anna will be added to the royalty rate for every increase of Rs. 15 or part thereof in the tariff valuation. Should the tariff valuation of pig-iron become fictitious owing to the cessation of imports or to any other cause, a point on which the

* Profits shall be taken to mean the excess of the revenue which is wholly derived from the sale of the mineral or minerals specified over expenditure, after all costs and expenses chargeable to the actual working and management of the mine shall have been excluded. But neither depreciation nor amortization nor *directors' fees*, nor any revenue or expenditure obtained or incurred on account of share or capital transactions, or by trading, shall be brought into the account provided that the fees of such director or directors as may *actually direct technical* operations and are specially denoted as managing director or managing directors may be included in expenditure.

	decision of the Government of India shall be final, the market value of pig-iron for the purpose of the assessment of royalty shall be determined by the Government of India.
Iron-ore in Burma when intended to be used solely for fluxing purposes.	Half-anna per ton of iron-ore.
Precious stones ...	30 per cent on the net profits of each year taken separately (for mining leases only).
All other minerals not specified above.	2½ per cent on the sale value at the pit's mouth, or on the surface, of the dressed ore or metal, convertible at the option of the Local Government to an equivalent charge per ton to be fixed annually or for a term.

Note.—Tariff valuation is fixed in December for the following calendar year, but the Local Government may, at their discretion, assess the royalty for the financial year beginning on the 1st April on the tariff valuation fixed in the preceding December.

Schedule B.—Maximum quantities removable free of royalty—Rule (30) (iii).

Class	A.	Separated gold, platinum and other precious metals occurring in the native state ...	Nil.
,,	B.	Auriferous rock and gravel	2 tons.
,,	C.	Metalliferous ores such as those worked for aluminium, iron, manganese	10 tons.
,,	D.	Metalliferous ores such as those worked for antimony, arsenic, bismuth, chromium, copper, lead, nickel, tin, titanium, tungsten, zinc	5 tons.
,,	E.	Metalliferous ores such as those worked for cadmium, cobalt, mercury, molybdenum, silver, thallium, vanadium	2 tons.
,,	F.	Compound ores containing the metals of Class E in smaller quantities than those of Class D	5 tons.
,,	G.	Concentrates of the ores enumerated in Classes D to F	2 cwt.
,,	H.	Coal, lignite and oil shale	50 tons.
,,	I.	Natural petroleum	200 gallons.
,,	J.	Minerals of the so-called 'rare earths' such as minerals worked specifically for caesium, cerium, columbium, didymium, erbium, gallium, germanium, indium, lithium, niobium, rubidium, tantalum, thorium, uranium, yttrium, and zirconium.	1 ton.

Class K.	Minerals used in agriculture and chemical manufactures such as bauxite, gypsum, iron pyrites and pyritous shales	10 tons.
,, L.	Minerals used in various arts, such as barytes, bitumen, borax, corundum, emery, felspar, fluor spar	½ ton.
,, M.	Asbestos, graphite, mica and native sulphur.	1 cwt.
,, N.	Precious stones and gems such as agate, amber, ambligonite, amethyst, aquamarine, beryl, chrysoberyl, chrysolite, diamond, emerald, garnet, jade and jadeite, jasper, lapizlazuli, moonstone, opal, ruby, sapphire, spinel, topaz, tourmaline and turquoise	Nil.

Schedule C.—Minimum dead-rent—Rule (50) (ii).

Mineral.	Minimum dead-rent per acre.
(1) Coal, lignite, minerals used in agriculture and chemical manufactures, such as bauxite, gypsum, iron pyrites and pyritous shales ...	4 annas.
(2) Gold and silver, precious stones, and all minerals [not included in (1) above except iron-ore] and natural petroleum (including natural gas)	1 rupee.
(3) Iron-ore	1 anna.
(4) Natural Petroleum (including natural gas).	
For areas held under leases within the territories administered by any one Local Government—	
For leaces of areas not exceeding a total of 10 square miles.	Re. 1 per acre.
For leases of areas exceeding 10 square miles but not exceeding 50 square miles.	Re. 1 per acre for the first 10 square miles. Rs. 2 per acre for the excess over 10 square miles.
For leases of areas above 50 square miles but not exceeding 100 square miles.	Re 1 per acre for the first 10 square miles. Rs. 2 per acre for the next 40 square miles. Rs. 5 per acre for the excess over 50 square miles.

Mineral.	Minimum dead-rent per acre.
For leases of areas exceeding 100 square miles.	Re. 1 per acre for the first 10 square miles. Rs. 2 per acre for the next 40 square miles. Rs. 5 per acre for the next 50 square miles. Rs. 10 per acre for the excess over 100 square miles.

Note.—These minima are purposely fixed low ; any higher rate may be fixed by the Government or the Board of Revenue taking into account the value of the deposit and degree of development of the country The rate of dead-rent, once imposed, cannot be altered, except with the consent of the lessee, during the currency of the lease.

Schedule D.—Surface rent—Rule (50) (iii).

The rent rate assessable under the revenue and rent law of the Province. If no such rent is so assessable, the rate which may be fixed by Government subject to a maximum of one rupee and a minimum of four annas per acre.

Rent rate for the purpose of this schedule shall unless the Local Government otherwise direct be deemed to include water-rate ordinarily assessable under any irrigation rules which would apply to the land, if it had not been occupied for mining.

G.O. No. 837, Development, dated 8th June 1925.
B.P. Mis. No. 1398, dated 30th June 1925.

SECTION II.

Miscellaneous Local Government Rules.

Procedure regulating the grant of prospecting licences and mining leases.

Drafts of mining leases submitted to the Board or Government should be written on one side of the paper only, a wide margin being left for additions and alterations. In the case of mining leases the lessee should be required to pay in addition to the stamp duty such fees, not exceeding Rs. 50, as may be charged by the Government Solicitor for scrutinizing the draft lease deed. A copy of the form of lease finally approved by the Board or Government will be forwarded to the Collector. Prospecting licences and mining leases should be executed in duplicate by the licensee or licensees or by the lessee or lessees, as the case may be, on the one side and by the Collector on behalf of Government on the other. The original and duplicate should be signed by the Collector, the date of execution on behalf of Government being entered as the date of the indenture, at the top of the licence or lease, as the case may be.

Registration.

As the registration of all prospecting licences and their renewals and of mining leases is compulsory under section 107 of the Transfer of Property Act, 1882, unless exempted by a notification published under the proviso thereto, the Collector should cause the original as well as the duplicate to be presented for registration at Government expense and, after registration is effected, should deliver the original to the licensee or licensees or the lessee or lessees, as the case may be, and retain the duplicate in his office.

B.P. 66, paragraph 2, clause (*d*), dated 19th February 1896.
G.O. No. 375, dated 15th June 1899. B.P. No. 115, dated 8th June 1909.
B.P. No. 10, dated 11th January 1910. G.O. No 451, dated 5th February 1910.
G.O. No. 2231, dated 22nd July 1911. G.O. No. 1968, dated 3rd July 1912.

Stamp duty.

Prospecting licences are chargeable as agreements with a stamp duty of As. 8 under article 5 (*b*), Schedule 1 of the Indian Stamp Act, 1899. [a]In the case of mining leases, duty should be levied under article 35 (*a*) (iii) of the same schedule in respect of the aggregate amounts of royalty and rent payable annually under the leases. The royalty should be calculated in accordance with the provisions of section 26 of the Act, and the rent should be taken to be the maximum amount payable in respect of the whole extent of the land demised by the leases.[a] The leases are also chargeable with an additional stamp duty of As. 8 under article 5 (*b*) of the schedule in respect of the provision for the sale of the buildings, etc., of the lessee to the lessor—vide clause 5, part IX of the schedule to the model form of mining lease in Appendix IX * in Chapter VIII. On mining leases, which contain a stipulation for deposit of security in addition to royalty and rent, duty should be levied under article 35 (*c*) of the schedule. [b]Duplicates of mining leases granted by Government are exempted from payment of stamp duty under proviso (1) to section 3 of the Act.[b]

B.P. No. 105-1228 R. (S R.), dated 23rd May 1912.

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* Pages 128–153

a B.P. No. 133, dated 11th May 1907.

b B.P. Mis. No R. 356 (S.R.), dated 20th February 1904.
B.P. No. 141, dated 20th June 1902. B P. No. 54, dated 22nd March 1904.

CHAPTER VII.—SPECIAL RULES APPLICABLE TO PARTICULAR MINERALS.

(*a*) Special Rules for Natural Petroleum in respect of lands as to which the State claims full right to Minerals—Group C.

(i) Licences and leases relating to natural petroleum shall also contain a stipulation binding the licensee or lessee to accept as regards any leases for the extraction of the oil which may subsequently be granted to him for the area covered by such licence or any part of it and as regards any lease which he already holds for the extraction of the oil or may acquire under licences to prospect for the oil already granted to him any condition which may be imposed by the Government in order to secure that the oil produced from any of the areas in respect of which a mining lease is granted shall be refined in British Indian territory.

(ii) The assignment and transfer of prospecting licences and mining leases for natural petroleum require the previous sanction of Government and will not be sanctioned unless the transferee accepts the stipulations referred to in the previous clause.

(iii) Prospecting licences for oil shall be issued in the form given in Appendix VII* in Chapter VIII with such modifications as may appear necessary, but the terms of the licensee's covenant No. 7, clause 2 of the Powers of Government and the stipulations mentioned in clauses (i) and (ii) above should be expressly included.

(*b*) Special Rules for Mica in respect of lands as to which the State claims full right to Minerals—Group C.

1. *Royalty.*—A royalty of 5 per cent on the sale value at the pit's mouth shall be charged on all mica removed from any mine. Such royalty will be calculated on the scale of values drawn up by the Board of Revenue and printed in Appendix XIV † in Chapter VIII. This scale may be varied from time to time with the previous sanction of the Governor in Council. Estimates of the value of

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* Pages 112–128. † Page 166.

mica according to the size of the plates in which it is removed will be framed from time to time and each lessee shall be liable to pay prior to the removal of consignments from the premises of the mine the amount of royalty due as calculated on the assumption that all the mica removed from his mine is the best of its size and will fetch the estimated value. In exceptional cases, however, it will be open to the Collector to allow royalty to be paid a short time after the removal of consignments from the mines. If a lessee who has paid royalty at the schedule rates produces within two years from the date of despatch from the mine a shipper's certificate in the prescribed form and supported by brokers' certificates showing the actual receipts for sales of mica under each dimension, he will be allowed to recover any royalty paid in excess. Consignments in respect of which refund of royalty is claimed must not have broken bulk in Madras but must have been kept under official supervision before shipment in such place and subject to such restrictions as may, from time to time, be prescribed by the Board of Revenue.

On application being made to the Board, any house of business of assured standing in the city of Madras will be authorized to grant shipper's certificates in the form given in Appendix XV* in Chapter VIII.

Paragraph 2 of G.O. No. 818, Revenue, dated 13th November 1896, communicated in B.P. No. 436, dated 23rd November 1896.

B.P. No 307, dated 17th December 1901.

B.P. No. 281, dated 3rd December 1902.

G.O. No. 897, Revenue, dated 27th March 1913.

2. *Surrender of leases and applications for large areas.*—The Collector may allow a lessee to give up his original lease and to apply, in lieu of it, for a new one embracing a larger area provided that the prescribed limits as regards area are not exceeded. The new lease in such cases may run for the full term of 30 years if the Collector so recommends. On receipt of an application for prospecting or for mining over a plot lying within 200 yards of an area already granted to a different individual under a mining lease the Collector may, if he sees no objection, give this original lessee an opportunity of extending his lease area, if the rules permit, so as to include the whole or a portion of the extent newly applied for.

B.P. Mis. No. 836, dated 28th January 1897, paragraph 4.

B.P. No. 1527, dated 10th May 1898.

B.P. No. 117, dated 26th April 1906.

* Pages 166–167.

3. The lessee shall not without the consent in writing of the Collector despatch any consignment of mica from the mines unless it shall have been inspected and its removal authorized by a Government officer appointed for the purpose. The dates on which the inspection will be made will be notified to the lessee by the Collector, but if the lessee desires to despatch a consignment on any other date, he shall give the Collector a fortnight's notice of such intention.

B.P. No. 1350, dated 22nd April 1899.

4. The lessee will also be required, within six months after the expiration or sooner determination of the lease or the date of abandonment of the undertaking or the cessation of excavation, to fill up, to the satisfaction of the Collector, every pit excavated by him unless the royalty paid or payable in respect of such pit exceeds Rs. 200 or the Collector shall in writing have dispensed with such filling up, and to restore to its natural or original condition and render fit for cultivation again to such extent as the Collector may require the surface of all lands occupied by him.

5. As a general rule, no mica operations will be permitted within a distance of 70 yards from any important irrigation source or channel but each case will be decided on its own merits. Except with the special sanction of the Board of Revenue, 25 yards is an irreducible minimum and the reduction of the margin to this limit will be allowed only on condition that no stone or earth is thrown into the course of the streams.

6. The applicant will be required to furnish the Collector, at such intervals as the Collector may direct, with correct and intelligible plans and sections of the mines, showing the operations and workings carried on and all vein-faults and other disturbances observed in such operations. Maps or plans prepared by the applicant will be rejected, if inadequate for the purpose had in view.

*6-A. Rules 24, 36 and 37 of the Mining Rules (in Chapter VI) shall apply to prospecting licences and mining leases for mica with the following modifications, namely :—

"In the case of mining leases for mica the Collector shall retain a sufficient part of the amount deposited under rule 36 till the termination of the lease

* B.P. Mis. No. 932, dated 6th April 1927.

as security for the due fulfilment of the covenants of the lease and adjust the balance, if any, towards the rent or royalties payable by the lessee."

*6-B. Before the transfer of a mining lease for mica is sanctioned under rule 50 (vii) of the Mining Rules the transferee shall, in cases where the transferor has made no deposit or where a sufficient portion of it has not been retained as security, be required to deposit such sum as may be fixed by the Collector. The deposit so made shall be dealt with in the manner prescribed in the foregoing rule.

7. *Form of lease.*—The form of lease is printed in Appendix XVI † in Chapter VIII. Every lessee shall maintain an account in the form given in Appendix XVII ‡ in Chapter VIII and furnish extracts therefrom to the Collector (monthly or fortnightly as the Collector may determine) within three days of the expiration of the period to which each return relates, failing which the lease shall be liable to be cancelled.

B.P. No 436, dated 23rd November 1896, paragraph 4.
B.P. No. 130, dated 21st April 1897.

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* B.P. Mis. No. 932, dated 6th April 1927.
† Pages 168–191. ‡ Pages 192–193.

CHAPTER VIII.—FORMS AND AGREEMENTS.

APPENDIX I.

[See Rule 8 in Chapter V.]

Form of agreement for mining in lands held on ryotwari tenure.

AGREEMENT made the day of 19 between of (hereinafter called "the registered holder" which term shall be taken to mean and include in these presents where the context admits not only the said

but also his heirs executors administrators legal representatives and assigns) of the one part and the Right Honourable the Secretary of State for India in Council (hereinafter called "the Secretary of State" which term shall be taken to mean and include in these presents where the context admits not only the said Secretary of State for India in Council but also his successors and assigns) of the other part.

WHEREAS the registered ryotwari holder holds (amongst others) the lands described in the first schedule hereunder written (hereinafter referred to as the said lands).

AND WHEREAS the registered holder has given notice to the Collector of the district of (hereinafter called "the Collector") of the intention of the registered holder to carry on mining operations for (here enter the "mineral") in the said lands and to deposit mining waste in the said lands and has lodged with the Collector an accurate map or sketch of the said lands.

AND WHEREAS the Collector acting for and on behalf of the Secretary of State has agreed to allow the registered holder to commence mining operations for on the said lands and to deposit mining waste thereon upon the registered holder entering into such an agreement as is hereinafter contained.

AND WHEREAS the registered holder has deposited with the Collector the sum of Rs. as security against any loss or damage which may be incurred by the Secretary of State by reason of any of the said lands being rendered unfit for cultivation by any mining operations therein of the registered holder or by the deposit of mining waste thereon by the registered holder.

NOW THESE PRESENTS WITNESS and the registered holder doth hereby agree with the Secretary of State in manner following, that is to say:

G.O. No. 2102, Dev., dated 13th December 1928.
B.P. Mis. No. 530, dated 20th February 1929.

(1) The registered holder shall be at liberty at all times during the period of twenty years from the date of these presents to carry on mining operations for
in the said lands in a proper and workman-like manner and to deposit mining waste on the said lands and shall at all times be answerable and accountable to the Secretary of State for all acts and defaults by any of his nominees, servants or agents in carrying on such operations or in making such deposit.

(2) The registered holder shall and will on the
day of
next and on the
day of every succeeding year during so long as he shall have carried on any such mining operations as aforesaid pay to the Collector for and on behalf of the Secretary of State in addition to the land assessment for the time being payable in respect of the said lands royalties on the several minerals mentioned in the second schedule hereunder written which shall have been gotten by the registered holder in or from the said lands at the several and respective rates mentioned in the said second schedule or in case the same shall be greater in amount the dead-rents per acre of the said lands at the several rates also mentioned in the said second schedule.

* *Proviso.*—Provided that the registered holder shall abide by the rules prescribed by Government from time to time as to (1) the basis on which royalty on mica and other minerals leviable from lessees of lands in which the State has full mineral rights should be calculated, (2) the manner in which, and the intervals at which, such royalty should be paid to Government, and (3) the conditions subject to which such lessees are to remove the minerals won from the mines.

(3) The registered holder shall and will keep correct accounts in such form as the Collector shall from time to time require and direct showing the quantities and other particulars of all minerals obtained by the registered holder from the said lands and also the number of persons employed in carrying on the said mining operations therein and shall from time to time when so directed by the Collector prepare and maintain complete and correct plans of all mines and working in the said lands and shall allow any officer thereunto authorized by the Board of Revenue from time to time and at any time to examine such accounts and any such plans and shall when so required supply and furnish all such information and returns regarding all or any of the matters aforesaid as the Government of Madras shall from time to time require and direct.

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* B.P. No. 88, dated 1st May 1901.

(4) The registered holder shall and will at all times allow any officer authorized by the Board of Revenue in that behalf to enter upon any part of the said lands where any mining operations may be carried on for the purpose of inspecting the same.

(5) The registered holder shall forthwith send to the Collector a report of any accident which may occur at or in the said lands and also of the discovery therein of any mineral other than (here enter the mineral already specified in the notice given by the registered holder).

(6) It shall be lawful for the registered holder to at any time cease mining operations under these presents provided he shall pay to the Collector for and on behalf of the Secretary of State the royalties or dead-rent as the case may be payable by the registered holder under these presents up to the end of the year in which he shall cease such mining operations and shall restore the said lands as next hereinafter provided and upon his so doing these presents shall cease and determine.

(7) In case the registered holder shall relinquish the whole or any part of the said lands then and in any such case he shall restore the lands so relinquished or so much thereof as the Collector shall require to be restored to a state fit for cultivation or shall securely and permanently fence in all such abandoned pits and excavations therein as the Collector shall require to be so fenced and in case the registered holder shall fail or neglect to restore any such lands which he shall be required to restore to a state fit for cultivation or to so fence in any such abandoned pit or excavation which he shall be required to so fence in then and in any such case it shall be lawful for the Collector to so restore any such lands or as the case may be to so fence in any such pit or excavation at the expense of the registered holder and to apply the said sum of Rs. so deposited in or towards the cost of so doing and to recover the balance of such cost from the registered holder under the provisions of the Madras Revenue Recovery Act, 1864, or any subsisting statutory modification thereof or to deduct from the amount of the said deposit and retain on behalf of the Secretary of State a sum equal to thirty times the assessment of the said lands which shall have been rendered unfit for cultivation.

(8) The registered holder shall not be entitled to any remission of assessment in respect of any of the said lands which shall be rendered unfit for surface cultivation by the carrying on of any mining operations or by the deposit of mining waste.

(9) *The registered holder shall not assign, lease or part* with the possession of the said lands or any part thereof for the whole or any part of the said term without previous inti*mation in writing to the Collector.*

(10) If the registered holder does not intend to carry on mining operations himself, but intends to lease out the right to do so to another person, the registered holder and his lessee shall enter into an agreement with Government binding themselves jointly and severally to accept the conditions and stipulations herein contained which agreement shall be in the form set out in Appendix III* to the rules for mining in lands held on ryotwari tenure and other lands in which the State claims a share in the minerals.

(11) All royalties or dead-rent payable under these presents shall be recoverable under the provisions of the Madras Revenue Recovery Act, 1864, or any subsisting statutory modification thereof.

(12) In the event of any breach by the registered holder of any of the conditions of these presents, it shall be lawful *for the Government of Madras* to enhance the rates of royalty or dead-rent mentioned in the second schedule hereto or *for the Collector* to give notice in writing to the registered holder of his intention to cancel these presents whereupon the same shall stand cancelled but without prejudice to any rights which the Secretary of State may have against the pattadar in respect of any antecedent claim or breach of covenant or condition.

(13) Any notice to be given to the registered holder may be addressed to his last known place of abode and where a notice has been so addressed it shall be deemed to have been duly served for the purpose of these presents.

(14) In case any question or dispute shall arise regarding these presents or any matter or thing herein contained or connected herewith or touching the rights or powers of the registered holder under these presents or the amount or payment of any royalty or dead-rent made payable under these presents then and in any such case such question or dispute shall be decided by the Board of Revenue whose decision thereon shall be final and conclusive and altogether operative and binding upon the parties hereto.

IN WITNESS whereof the registered holder has hereunto set his hand the day and year first above written.

The first schedule above referred to.

(Here enter description of the lands as given in the notice to the Collector.)

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* Pages 102–106.

The second schedule above referred to.

Minerals.	Royalty.	Minimum dead-rent per acre. RS.	A.	P.
Coal, exclusive of dust and coal used on the works.	5 per cent on the sale value at the pit's mouth, with a minimum of 2 annas per ton.	0	2	0
Coal dust	Half the rates fixed for coal.	0	2	0
Mica	5 per cent on the sale value (*a*) at the pit's mouth.	0	8	0
Natural petroleum ...	5 per cent *ad valorem* on the well head value subject to a minimum of 8 annas per 40 gallons.	...		
Natural gas	If sold by licensee or lessee or if utilized by him for any other purpose than the production of natural petroleum or natural gas—5 per cent on the well head value.			
	On gas converted into gasoline, the well head value shall be calculated on the volume of gasoline manufactured; it shall be deemed to be equivalent to the selling value of the gasoline less the cost of manufacture and the royalty shall be subject to a minimum of 8 annas per 40 gallons of gasoline manufactured.			
	Provided that the 5 per cent royalty rate shall be convertible at the option of the local Government to equivalent charge per 40 gallons of gasoline (not being less than eight annas) or per 1,000 cubic feet of gas, as the case may be, to be fixed annually.			

(*a*) The sale value of mica should be calculated on the scale given in Appendix XIV in Chapter VIII.

Minerals.	Royalty.	Minimum dead-rent per acre.
		RS. A. P.
Oil, shale	(*a*) When oil is extracted by the licensee or lessee within the territories administered by the Local Government granting the concession.	8 annas per 40 gallons of crude oil obtained therefrom.
	(*b*) In other cases	Re. 1 per ton of shale mined.
Gold and silver ...	7½ per cent on the profits (*a*) of each year taken separately or 2½ per cent on the gross value, at the option of the Local Government.	0 8 0
Iron-ore intended to be used for the extraction of iron.	One anna per ton of iron-ore during the year for which the tariff valuation of imported pig-iron has been fixed at Rs. 65 per ton or less. When the tariff valuation exceeds Rs. 65 one anna will be added to the royalty rate for every increase of Rs. 15 or part thereof in the tariff valuation (*b*). Should the tariff valuation of pig-iron become fictitious owing to the cessation of imports or to any other cause, a point on which the decision of the Government of India shall be final, the market value of pig-iron for the purpose of the assessment of royalty shall be determined by the Government of India.	0 0 6

(*a*) Profits shall be taken to mean the excess of the revenue which is wholly derived from the sale of the mineral or minerals specified over expenditure, after all costs and expenses chargeable to the actual working and management of the mine shall have been excluded. But neither depreciation nor amortization nor director's fees nor any revenue or expenditure obtained or incurred on account of share or capital transactions or by trading shall be brought into the account, provided that the fees of such director or directors as may actually direct technical operations and are specifically denoted as Managing Director or Managing Directors may be included in expenditure.

(*b*) Tariff valuation is fixed in December for the following calendar year, but the Local Government may, at their discretion, assess the royalty for the financial year beginning on the 1st April on the tariff valuation fixed in the preceding December.

Minerals.	Royalty.	Minimum dead rent per acre.		
		RS.	A.	P.
Precious stones ...	30 per cent on the net profits of each year taken separately (for mining leases only).	0	8	0
All other minerals not specified above and possessing a high commercial value.	$2\frac{1}{2}$ per cent on the sale value at the pit's mouth, or on the surface, of the dressed ore or metal, convertible at the option of the Local Government to an equivalent charge per ton to be fixed annually or for a term.	0	8	0

APPENDIX II.

[See Rule 18-A in Chapter V.]

Form of agreement for depositing mining waste on lands held on ryotwari tenure.

AGREEMENT made the day of 19 between of (hereinafter called the "registered holder" which term shall be taken to mean and include in these presents where the context admits not only the said but also his heirs executors administrators legal representatives and assigns) of the one part and the RIGHT HONOURABLE THE SECRETARY OF STATE FOR INDIA IN COUNCIL (hereinafter called "the Secretary of State" which term shall be taken to mean and include in these presents where the context admits not only the said Secretary of State for India in Council but also his successors and assigns) of the other part.

WHEREAS the registered holder holds (amongst others) the lands described in the schedule hereunder written.

AND WHEREAS the registered holder has given notice to the Collector of the district of (hereinafter called "the Collector") of the intention of the registered holder to deposit mining waste or to allow mining waste to be deposited in the said lands described in the said schedule and has lodged with the Collector an accurate map or sketch of the said lands.

AND WHEREAS the Collector acting for and on behalf of the Secretary of State has agreed to allow the registered holder or others to deposit mining waste on the said lands upon the registered holder entering into such an agreement as is hereinafter contained.

AND WHEREAS the registered holder has deposited with the Collector the sum of Rs. as security against any loss or damage which may be incurred by the Secretary of State by reason of any of the said lands being rendered unfit for cultivation by the deposit of mining waste thereon by the registered holder or persons acting with his permission.

NOW THESE PRESENTS WITNESS and the registered holder doth hereby agree with the Secretary of State in manner following, that is to say:

(1) The registered holder shall be at liberty at all times from the date of these presents to deposit mining waste or to allow mining waste to be deposited in the said lands described in the said schedule hereto and shall at all times be answerable and accountable to the Secretary of State for all acts and defaults by any of his nominees, servants or agents in making such deposit.

(2) The registered holder shall and will at all times allow any officer authorized by the Board of Revenue in that behalf to enter upon any part of the said lands where mining waste may be deposited for the purpose of inspecting the same.

(3) In case the registered holder shall relinquish the whole or any part of the said lands then and in any such case he shall restore the lands so relinquished or so much thereof as the Collector shall require to be restored to a state fit for cultivation and in case the registered holder shall fail or neglect to restore any such lands which he shall be required to restore to a state fit for cultivation then and in any such case it shall be lawful for the Collector to so restore any such lands at the expense of the registered holder and to apply the said sum of Rs.   so deposited in or towards the cost of so doing and to recover the balance of such cost from the registered holder under the provisions of the Madras Revenue Recovery Act, 1864, or any subsisting statutory modification thereof or to deduct from the amount of the said deposit and retain on behalf of the Secretary of State a sum equal to thirty times the assessment of the said lands which shall have been rendered unfit for cultivation.

(4) The registered holder shall not be entitled to any remission of assessment in respect of any of the said lands which shall be rendered unfit for surface cultivation by the deposit of mining waste.

(5) In case any question or dispute shall arise regarding these presents or any matter or thing herein contained or connected herewith or touching the rights or powers of the registered holder under these presents then and in any such case such question or dispute shall be decided by the Board of Revenue whose decision thereon shall be final and conclusive and altogether operative and binding upon the parties hereto.

IN WITNESS whereof the registered holder has hereunto set his hand the day and year first above written.

The schedule above referred to.

(Here enter description of the lands as given in the notice to the Collector.)

APPENDIX III.

[See Rule 18-B in Chapter V.]

Form of joint agreement for mining by lessees in lands held on ryotwari tenure.

THIS AGREEMENT made the day of 19 between son of residing at hereinafter called the registered holder (which expression where the context admits shall include his heirs executors administrators legal representatives and assigns) of the first part and son of residing at hereinafter called the lessee (which expression where the context admits shall include his heirs executors administrators legal representatives and assigns) of the second part and the RIGHT HON'BLE THE SECRETARY OF STATE FOR INDIA IN COUNCIL hereinafter called the Secretary of State (which expression where the context admits shall include his successors and assigns) of the third part. WHEREAS the registered holder holds the lands described in the first schedule hereto and is entitled to carry on by himself or by others mining operations in the said lands according to the rules from time to time issued by the Board of Revenue at Madras.

AND WHEREAS mining operations in the said lands cannot be carried on under the said rules without the approval of the Collector for the time being of district in the Madras Presidency.

AND WHEREAS the registered holder has granted or is about to grant a lease of the mining rights in the lands described in the first schedule hereto to the lessee.

AND WHEREAS the registered holder has given notice to the said Collector of his intention to carry on mining operations for * and of the said lease or intended lease to the lessee of the lands described in the first schedule hereto and to deposit mining waste in the said lands and has lodged with the said Collector the lease and an accurate map or sketch of the said lands.

* Here enter mineral

AND WHEREAS the said Collector acting for and on behalf of the Secretary of State has agreed to allow the said registered holder or lessee to commence mining operations and to deposit mining waste in or on the said lands described in the first

schedule for a term of years from day of 19 upon the registered holder and the lessee entering into the agreement hereinafter contained.

AND WHEREAS the registered holder has deposited with the said Collector the sum of Rs. as security for the due performance of the covenants agreements and provisos hereinafter contained and against any loss or damage which may be incurred by the Secretary of State by reason of any of the said lands described in the first schedule hereto being rendered unfit for cultivation by the mining operations therein or by the deposit of mining waste thereon by either the registered holder or the lessee.

AND WHEREAS the lessee has at the request of the registered holder and in consideration of such approval by the Collector of the mining operations as hereinbefore recited agreed to join in these presents for the purpose of entering into the covenants agreements and provisos hereinafter contained as surety for the registered holder.

NOW THESE PRESENTS WITNESS and the registered holder and the lessee do hereby jointly and as separate covenants each of them doth hereby covenant and agree with the Secretary of State as follows:—

(1) To carry on mining operations during the said term in a proper and workmanlike manner and to deposit mining waste on the lands described in the first schedule hereto and to answer and to account at all reasonable times to the Secretary of State for all acts and defaults committed by any servants agents or workmen employed by the registered holder or lessee in carrying on such operations or in making such deposit.

(2) To pay on the day of 19 next and on the day of 19 of every succeeding year so long as the operations aforesaid are carried on into the Treasury / Imperial Bank of India at for and on behalf of the Secretary of State in addition to the land assessment for the time being payable in respect of the said lands royalties on the several minerals mentioned in the second schedule hereunder written which shall have been gotten by the registered holder or lessee in or from the said lands at the several and respective rates mentioned in the said second schedule hereto or in case the same shall be greater in amount the dead rents per acre of the said lands at the several rates also mentioned in the said second schedule.

(3) To abide by the rules prescribed by Government from time to time as to (1) the basis on which royalty on mica and other minerals leviable from lessees of lands in which the State has full mineral rights should be calculated, (2) the manner in which and the intervals at which such

royalty should be paid to Government and (3) the conditions subject to which the minerals won from the mines should be removed.

(4) To keep correct accounts in such form as the said Collector shall from the time to time require and direct showing the quantities and other particulars of all minerals obtained by the registered holder or the lessee from the said lands and also the number of persons employed in carrying on the said mining operations therein and to prepare and maintain from time to time when so directed by the said Collector complete and correct plans of all mines and working in the said lands and to allow any officer thereunto authorized by the Board of Revenue at Madras from time to time and at all times to examine such accounts and any such plans and to supply and furnish when so required all such information and returns regarding all or any of the matters aforesaid as the Government of Madras may from time to time require and direct.

(5) To allow any officer authorized by the Board of Revenue at Madras in that behalf from time to time and at all times to enter upon any part of the said lands where mining operations may be carried on for the purpose of inspecting the same.

(6) To forthwith send to the said Collector a report of any accident which may occur at or in the said lands and also of the discovery therein of any minerals other than *

* Here enter the minerals already specified in the notice given by the registered holder.

(7) Not to claim any remission of assessment in respect of any of the said lands which shall be rendered unfit for surface cultivation by the carrying on of any mining operations or by the deposit of mining waste.

Provided always and it is hereby expressly agreed by and between the parties as follows:—

(1) That it shall be lawful for the registered holder or lessee as the case may be to at any time cease mining operations under these presents provided the registered holder or lessee shall pay to the said Collector for and on behalf of the Secretary of State the royalties or dead-rent as the case may be payable by the registered holder or the lessee under these presents up to the end of the year in which the registered holder or the lessee shall cease such mining operations and shall restore the said lands as next hereinafter provided and upon the registered holder or the lessee so doing these presents shall cease and determine.

(2) That in case the registered holder or lessee shall relinquish the whole or any part of the said lands then and in any such case the registered holder or lessee shall restore the lands so relinquished or so much thereof as the said Collector

shall require to be restored to a state fit for cultivation and shall securely and permanently fence in all abandoned pits and excavations therein as the said Collector shall require to be so fenced and in case the registered holder or lessee shall fail or neglect to restore any such lands which the registered holder or the lessee shall be required to restore to a state fit for cultivation or to so fence in any such abandoned pit or excavation which the registered holder or the lessee shall be required to so fence in then and in any such case it shall be lawful for the said Collector to so restore any such lands or as the case may be so fence in any such pit or excavation at the expense of the registered holder or lessee and to apply the said sum of Rs.   so deposited in or towards the cost of so doing and to recover the balance of such cost from the registered holder or the lessee under the provisions of the Madras Revenue Recovery Act, 1864, or any subsisting statutory modification thereof or to deduct from the amount of the said deposit and retain on behalf of the Secretary of State a sum equal to thirty times the assessment of the said lands which shall have been rendered unfit for cultivation.

(3) That all royalties or dead-rent payable under these presents shall be recoverable under the provisions of the Madras Revenue Recovery Act, 1864, or any subsisting statutory modification thereof.

(4) That in the event of any breach by the registered holder of any of the conditions of these presents, it shall be lawful *for the Government of Madras* to enhance the rates of royalty or dead-rent mentioned in the second schedule hereto or *for the Collector* to give notice in writing to the registered holder of his intention to cancel these presents whereupon the same shall stand cancelled but without prejudice to any rights which the Secretary of State may have against the registered holder in respect of any antecedent claim or breach of covenant or condition.

(5) That any notice to be given to the registered holder may be addressed to his last known place of abode and where a notice has been so addressed it shall be deemed to have been duly served for the purpose of these presents.

(6) That in case any question or dispute shall arise regarding these presents or any matter or thing herein contained or connected therewith or touching the rights or powers of the registered holder or lessee under these presents or the amount or payment of any royalty or dead-rent made payable under these presents then and in any such case such question or dispute shall be decided by the Board of Revenue at Madras whose decision thereon shall be final and conclusive and altogether operative and binding upon the parties thereto.

IN WITNESS whereof the registered holder and the lessee have hereunto set their hands the day and year first above written.

The first schedule above referred to.

(Here enter description of lands as given in the notice to the Collector.)

The second schedule above referred to.

(Here enter the particulars shown under the second schedule in the form of agreement for mining in lands held on ryotwari tenure.)

SIGNED by the abovenamed
in the presence of

SIGNED by the abovenamed
in the presence of

APPENDIX IV.

[See Rules 6, 10 and 18 in Chapter V.]

Districts.	Seigniorage fees.	Acreage assessment.
(1) Ganjam .. (2) Vizagapatam (3) E. Godavari. (4) W. Godavari. (5) Kistna .. (6) Guntur .. (7) Nellore .. (8) Cuddapah .. (9) Anantapur .. (10) Bellary .. (11) Kurnool .. (12) Chittoor .. (13) North Arcot. (14) South Arcot. (15) Trichinopoly. (16) Madura .. (17) Coimbatore .. (18) Salem ..	PER CART-LOAD.* Rough stone (including laterite in blocks) .. .. 1 anna. Chiselled stone .. 2 annas. Metal, gravel (including laterite gravel) and limestone .. 6 pies.	Rupees 2-8-0 per acre for stone, metal, gravel, limestone and clay (used for bricks and tiles).
(19) Madras ..	Rough stone (including laterite in blocks) .. .. 1 anna. Chiselled stone .. 2 annas Metal, gravel (including laterite gravel) and limestone .. 6 pies.	Rupees 2-8-0 per acre for stone, metal, gravel and limestone and Rs. 5 per acre for clay (used for bricks and tiles).
(20) Chingleput ..	Rough stone (including laterite in blocks) .. 1 anna. Chiselled stone .. 2 annas. Metal, gravel (including laterite gravel) and limestone .. 6 pies.	Rupees 2-8-0 per acre for stone, metal, gravel and limestone. Rs. 2-8-0 per acre for clay (for bricks and tiles) quarried beyond ten miles of Fort St. George and Rs. 5 per acre for clay (for bricks and tiles) quarried within ten miles of Fort St. George.
(21) Tanjore ..	Rough stone (including laterite in blocks) .. .. 1 anna. Chiselled stone .. 2 annas. Metal, gravel (including laterite gravel) and limestone .. 6 pies.	Rupees 2-8-0 per acre for stone, gravel, metal, limestone and clay (for bricks and tiles). Annas 8 per cent (i.e., Rs. 50 per acre) for quarrying yellow ochre.
(22) Tinnevelly .. (23) Ramnad ..	Rough stone (including laterite in blocks) .. .. 1 anna. Chiselled stone .. 2 annas. Metal, gravel (including laterite gravel) and limestone .. 6 pies.	Rupees 2-8-0 per acre for stone, metal, gravel and limestone, a maximum of Rs. 5 per acre, subject to reduction at the Collector's discretion, for quarrying clay for bricks and tiles.

Note.—The seigniorage rates prescribed above are maxima and may be reduced by the Collector without reference to the Board of Revenue.

* For Wodders' carts half rates shall be chargeable.

Districts.	*Seigniorage fees.*	*Acreage assessment.*
	PER CART-LOAD—*cont.**	
(24) The Nilgiris.	Rough stone (including laterite in blocks) .. .. 1 anna. Chiselled stone .. 2 annas. Metal, gravel (including laterite gravel) and limestone .. 6 pies.	Rupees 5 per acre for stone, metal, gravel, limestone and clay, but Rs. 10 per acre for quarrying clay (for bricks and tiles) in Ootacamund and Coonoor, the Collector being at liberty to reduce the rates at his discretion.
(25) Malabar .. (26) South Kanara.	Rough stone (including laterite in blocks) .. .. 1 anna. Chiselled stone .. 2 annas. Metal, gravel (including laterite gravel) and limestone .. 6 pies.	Rupees 10 per acre for stone, metal, gravel, limestone and clay (for bricks and tiles) subject to reduction at the *Collector's discretion.*

Note.—The seigniorage rates prescribed above are maxima and may be reduced by the Collector without reference to the Board of Revenue.

* For Wodders' carts half rates shall be chargeable.

APPENDIX V.

[See Note under Rule 12 in Chapter VI.]

Application form for certificate of approval.

To

THE SECRETARY, BOARD OF REVENUE,
LAND REVENUE AND SETTLEMENT,
THROUGH THE COLLECTOR OF

1. Name of the applicant.
   Nationality.
   Residence or place of business.
2. Is the applicant a principal or an agent? If the latter, who are his principals and are they British subjects?

. What is the applicant's profession?

(i) What income-tax or land revenue does he pay?

(ii) Has he got sufficient means to carry on a *bona fide* mining concern? What capital can he command?

(iii) Has he any Bank references to give?

4. If the applicant intends to supervise the work, what experience has he had? If he intends to employ a manager what is his name and previous experience?
5. If mechanical means are to be used, what experience has the applicant or his manager?
6. Does the applicant hold a certificate of approval in any other province or State? Does he hold mining concessions in other provinces or States?
7. What mineral or minerals does the applicant propose to prospect for or mine? In what district or districts does he propose to prospect or mine?

Signature of Applicant.

G.O. No. 1457, Press, Development, dated 18th August 1924.
B.P. Mis. No. 2140, dated 11th September 1924.

APPENDIX VI.

[See Rules 15 and 34 in Chapter VI.]

Form of application for prospecting licences and mining leases.

1. The name, residence and profession of the applicant if he is an individual, or if the applicant is a company, syndicate, private firm or partnership, its name and nature and place of business, and if the place of business is outside India, the name and residence of a member or duly authorized agent resident in India.

2. Specification of the mineral or minerals which the applicant intends to prospect for or mine.

3. A description illustrated by a map or plan showing as accurately as possible the situation, boundaries and area of the land with respect to which the $\frac{\text{lease}}{\text{licence}}$ is required.

4. A statement showing all areas within the jurisdiction of the Local Government already held by the applicant or by any person joint in interest with him in prospecting or mining right.

5. The period for which the lease is required.

6. Whether the application is for a fresh concession or for a renewal of a concession previously granted.

7. The means by which the mineral is to be raised, i.e., by hand labour or mechanical or electrical power.

8. Approximate estimate of the quantity of mineral expected to be raised during the first year.

9. The manner in which the mineral raised is to be utilized—

(*a*) for manufacture in India.

(*b*) for export to foreign countries.

In the former case the industries in connexion with which it is required, should be specified. In the latter case, the countries to which the mineral will be exported, should be stated.

10. If the applicant intends to supervise the works his previous experience of $\frac{\text{mining}}{\text{prospecting}}$ should be explained; if he intends to appoint a manager the name of such a manager and the nature and extent of his previous experience should be specified.

Note.—Columns 4, 5, 7, 8 and 9 to be filled in only when the application is for a mining lease.

Signature of Applicant.

B.P. No. 40, Press, dated 11th July 1921.

Copies of all applications should be sent by Collectors to the Director of Industries.

APPENDIX VII.

[See Rule 22 in Chapter VI.]

Standard form of prospecting licence.

THIS INDENTURE made this day of 19 BETWEEN the SECRETARY of STATE for INDIA in COUNCIL (hereinafter referred to as the Secretary of State which expression shall where the context so admits be deemed to include his successors in office and assigns) of the one part and (1)

(1)—(1) This wording is to be used where the licence is granted to one individual.

[name of person]

of [address and occupation]

hereinafter referred to as "the licensee" (which expression shall where the context so admits be deemed to include his heirs executors administrators representatives and permitted assigns) (1) and (2)

(2)—(2) This wording is to be used where the licence is granted to more than one individual.

[name of person]

of [address and occupation]

and [name of person]

of [address and occupation]

and [name of person]

of [address and occupation]

hereinafter referred to as "the licensees" (which expression shall where the context so admits be deemed to include their respective heirs executors administrators representatives and their permitted assigns) (2)

(3)—(3) This wording is to be used where the licence is granted to a registered company.

and (3)

[name of company] Limited

incorporated in [country]

and having its registered office at [address]

hereinafter referred to as "the licensee" (which expression shall where the context so admits be deemed to include its permitted assigns) (3)

(4)—(4) This wording is to be used where the licence is granted to an unincorporated syndicate.

and (4) the unincorporated body called

[name of syndicate] having their principal place of business at [address] hereinafter referred to as "the licensees" (which expression shall where the context so admits be deemed to mean and include the persons or corporations who for the time being may be members of and the permitted assigns of

[name of syndicate]

) (4) and (5) the firm of

(5)—(5) This wording is to be used where the licence is granted to a firm.

[name of firm] having their principal place of business at

[address] hereinafter referred to as "the licensees" (which expression shall where the context

so admits be deemed to mean and include the persons who for the time being may be members of and the permitted assigns of

[name of firm]) (*)

of the other part

WHEREAS the $\frac{\text{licensee has}}{\text{licensees have}}$ applied *to the Collector of*

hereinafter referred to as the Collector (which expression if the context so admits shall be deemed to mean the holder of the office for the time being)

in accordance with the rules prescribed by the Governor-General of India in Council for the grant of licences to prospect for minerals and of mining leases (hereinafter referred to as the said rules) for a licence to prospect for

in the lands specified in Schedule A hereunder written and $\frac{\text{has}}{\text{have}}$ deposited with the Collector the sum of Rs. as the prescribed security in respect of such licence and $\frac{\text{has}}{\text{have}}$ paid to the Collector the sum of Rs. as the prescribed fee in respect of such licence and WHEREAS the Collector has found that the $\frac{\text{licensee is}}{\text{licensees are}}$ in possession of a valid certificate of approval and that there is no objection to the grant of such licence NOW THESE PRESENTS WITNESS *as follows* :—

I. In consideration of the royalties covenants and agreements hereinafter reserved and contained and on the part of the $\frac{\text{licensee}}{\text{licensees}}$ to be paid observed and performed the Secretary of State hereby grants and demises unto the $\frac{\text{licensee}}{\text{licensees}}$ the sole right and licence

(1) to enter upon the lands described in the said Schedule A and to mine quarry bore dig search for win and work all or any

lying or being within under or throughout the said lands

(2) to carry away and dispose of the produce thereof to and for the use and benefit of the $\frac{\text{licensee}}{\text{licensees}}$

(3) for the purposes aforesaid to clear undergrowth and brushwood and (with the sanction of the Collector previously obtained in writing) to make and use any drains or water-courses on the said lands for clearing the from any water which may flow or accumulate therein *and with the like sanction to use any water for steam-raising and other purposes as may be necessary for effectually carrying on the prospecting operations and for the workmen employed therein provided always that such use shall not diminish or interfere with the supply of water to which any cultivated land, village, building, or watering-place for live-stock has*

heretofore been accustomed and that no streams springs or wells shall be fouled or polluted by such use or the prospecting operations hereby licensed and

(4) with the like sanction to erect and bring upon the said lands all such temporary huts sheds and structures steam and other engines machinery and conveniences chattels and effects as shall be proper and necessary for effectually carrying on the prospecting operations hereby licensed or for the workmen employed therein.

RESERVING NEVERTHELESS to the Secretary of State full power and liberty at all times to enter into and upon and to grant or demise to any person or persons whomsoever liberty to enter into and upon the said lands for all or any purposes other than those for which sole right and licence are hereby expressly conferred upon the $\frac{\text{licensee}}{\text{licensees}}$ and particularly (and without hereby in any way qualifying such general power and liberty) to make on over or through the said lands such roads tramways and railways as shall be considered necessary or expedient for any purposes and to obtain from and out of the said lands such stone earth or other materials as may be necessary or requisite for making repairing or maintaining such roads tramways and railways and to pass and repass at all times over and along such roads tramways and railways for all purposes and as occasion shall require.

TO HOLD the said right and licence unto the $\frac{\text{licensee}}{\text{licensees}}$ from the date of the presents for the term of

Paying therefor immediately on the expiration or sooner determination of the said term clear of all rates taxes charges and deductions royalty at the rates specified in Schedule B hereunder written on the minerals won and carried away by the $\frac{\text{licensee}}{\text{licensees}}$ during the said term under the powers hereby granted in excess of the respective quantities specified in Schedule C hereunder written which the $\frac{\text{licensee}}{\text{licensees}}$ shall be entitled to take free of royalty for the purposes of experiment or as specimens.

Covenants by licensee.

II. The $\frac{\text{licensee}}{\text{licensees}}$ hereby $\frac{\text{covenants}}{\text{covenant}}$ with the Secretary of State as follows:—

(1) Duly to pay the said royalty.

(2) To work and carry on the operations hereby licensed in a fair orderly skilful and workmanlike manner and with as little damage as may be to the surface of the said lands and to the trees crops buildings structures and other property thereon.

(2-*a*) Not to work or carry on any operations hereby licensed in or under the said lands at or to any point within a distance of 50 yards from any railway reservoir canal or other public work or any building or inhabited site shown on the plan hereto annexed except with the previous permission in writing of the Governor-General of India in Council or some officer authorized by him in that behalf or otherwise than in accordance with such instructions, restrictions and conditions either general or special which may be attached to such permission. The said distance of 50 yards shall be measured in the case of a railway reservoir or canal horizontally from the outer toe of the bank or the outer edge of the cutting as the case may be and in the case of a building horizontally from the plinth thereof.

For the purpose of this clause the expression 'railway' shall have the same meaning as it is defined to have in the Indian Railways Act, 1890, by section 3 (4) of that Act.

(3) Not to enter upon or commence prospecting in any reserve forest situate upon the said lands without *thirty* days' previous notice in writing to the District Forest Officer nor without obtaining the written sanction of that officer nor otherwise than in accordance with such conditions as that officer may in his absolute discretion prescribe.

(4) Not to disturb the surface of any road without the written permission of the Collector nor without such permission to enter upon any public pleasure ground burning or burying ground or place held sacred by any class of persons or interfere with any right of way well or tank.

*(5) *Not to enter upon any land in the occupation of any person without the consent of the occupier nor to cut or in any way injure any trees standing crops buildings huts structures or other property of any kind of the occupier of any land or any other person without the consent of the owner such occupier or person.*

(6) Not to cut or injure any timber or tree on any unoccupied or unreserved land without the written permission of the Collector or officer by him appointed.

(7) To make and pay reasonable satisfaction and compensation for all damage or injury which may be done in exercise of any of the powers conferred by this licence and to indemnify and keep indemnified the Secretary of State against all claims or suits which may be made or brought by any person or persons in respect of any such damage or injury and all costs and expenses in connexion therewith.

(8) Whenever the said security deposit of Rs. or any part thereof or any further sum hereafter deposited

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* This clause should be suitably modified if it be not in accordance with the provisions of local laws referred to in the note under rule 30 (iv) of the Mining Rules.

with the Collector in replenishment thereof shall be forfeited or applied by the Collector pursuant to the power hereinafter declared in that behalf forthwith to deposit with the Collector such further sum as may be sufficient with the unappropriated part thereof to bring the amount in deposit with the Collector up to the sum of Rs.

(9) (*a*) Not to assign or transfer this licence or any interest hereunder or grant or transfer any right or interest intended to take effect under or by virtue hereof or attempt so to do or enter into or make any arrangement compact or understanding whereby the $\frac{\text{licensee}}{\text{licensees}}$ will or may be directly or indirectly financed by or under which the $\frac{\text{licensee's}}{\text{licensees'}}$ operations or undertakings will or may be carried on directly or indirectly by or for the benefit of or subject to the control of any Trust Syndicate Corporation firm or person unless with the written sanction given prior to such assignment transfer grant arrangement compact or understanding being entered into or made of the Local Government within the territories administered by which the said lands are situate (hereinafter called the Local Government) and any or every such arrangement compact or understanding as aforesaid (entered into or made with such sanction as aforesaid) shall only be entered into or made and shall always be subject to an express condition binding upon the other party or parties thereto that on the occasion of a state of emergency of which the Governor-General of India in Council shall be the sole judge it shall be terminable if so required in writing by the Local Government and shall in the event of any such requisition being made be forthwith thereafter determined by the $\frac{\text{licensee}}{\text{licensees}}$ accordingly.

(*b*) Within three months from the date of completion of such assignment transfer grant arrangement compact or understanding as aforesaid to register the same or such complete particulars thereof as may be required in the office of the Collector of the district in which the property the subject of this licence may be situate, such registration to be accompanied by payment of a fee of Rs. 50.

(10) *At least in every and as many other times as occasion may require well and truly to measure or weigh or cause to be measured or weighed upon some part of the said lands all minerals from time to time won from the said lands by the* $\frac{\textit{licensee}}{\textit{licensees}}$ *which may require to be measured or weighed for the purpose of ascertaining the royalty payable under these presents and to give days' previous notice in writing to the Collector of every such measuring or weighing in order that he or some person on his behalf may be present thereat and not to take away*

from the said lands any minerals so won until the same shall have been measured or weighed as the case may be.

(11) *To ascertain and verify in such manner as the Local Government may from time to time prescribe the value of all precious stones and other minerals ores and metals from time to time won dressed or extracted by the* $\frac{\textit{licensee}}{\textit{licensees}}$ *which may require to be valued for the purpose of ascertaining the royalty payable under these presents.*

(12) *Upon the expiration or sooner determination of this licence or the abandonment of the operations hereby licensed whichever shall first occur to remove at the* $\frac{\textit{licensee's}}{\textit{licensees'}}$ *own cost all buildings structures plant engines machinery implements utensils and other property and effects theretofore erected or brought by the* $\frac{\textit{licensee}}{\textit{licensees}}$ *and then standing or being upon the said lands and also all minerals theretofore won by the* $\frac{\textit{licensee}}{\textit{licensees}}$ *under the authority of these presents and then being upon the said lands PROVIDED that this covenant shall not apply to any part of the said lands which may be comprised in any mining lease granted to the* $\frac{\textit{licensee}}{\textit{licensees}}$ *during the subsistence of this licence.*

(13) Within six calendar months after the expiration or sooner determination of this licence or the abandonment of the operations hereby licensed whichever shall first occur and at the cost of the $\frac{\text{licensee}}{\text{licensees}}$ to plug securely all bores and to fill up or fence all holes and excavations made by the $\frac{\text{licensee}}{\text{licensees}}$ in the said lands to such extent as the Collector may require and to the like extent to remove waste and rubbish upon the said lands and restore to their natural or original condition the surface of the said lands and all buildings and structures thereon not belonging to the $\frac{\text{licensee}}{\text{licensees}}$ which stood thereon prior to the date hereof and which may have been damaged or injured by the $\frac{\text{licensee}}{\text{licensees}}$ in the course of any operations hereby licensed PROVIDED that this covenant shall not apply to any part of the said lands which may be comprised in any mining lease granted to the $\frac{\text{licensee}}{\text{licensees}}$ during the subsistence of this licence nor to any disturbance of the surface or damage or injury in respect whereof the Collector shall be satisfied that proper compensation has been made by the $\frac{\text{licensee}}{\text{licensees}}$.

(14) At any time within the period mentioned in the last preceding covenant if so required by the Collector to disclose to the Collector all information acquired by the

$\frac{\text{licensee}}{\text{licensees}}$ in the course of any operations under this licence regarding the minerals contained in or under or the geological formation of any part of the said lands which shall not be comprised in any mining lease granted to the $\frac{\text{licensee}}{\text{licensees}}$ during the subsistence of this licence.

(15) (*a*) The $\frac{\text{licensee}}{\text{licensees}}$ shall at all times during the said term remain or be a British subject or subjects or a British Company or Corporation registered incorporated or established in British India or the United Kingdom or some other part of His Majesty's dominions and of which at all times during the said term the Chairman or President or other person occupying that or any similar position (if any) and the Managing Director (if any) and a majority of the other Directors (if any) shall be a British subject or British subjects and the Managing Agents or Managing Agent Secretary or Secretaries (if any) shall be a firm of which every Member is a British subject an individual who is a British subject or a Company in every respect answering the description and satisfying the conditions last hereinbefore contained and laid down as those to which the Company itself must as the $\frac{\text{licensee}}{\text{licensees}}$ conform.

(*b*) The local General Manager and not less than per cent of the local staff employed by the $\frac{\text{licensee}}{\text{licensees}}$ shall at all times during the said term be a British subject or British subjects and neither the $\frac{\text{licensee}}{\text{licensees}}$ nor the said mines and minerals shall at any time during the said term be or become directly or indirectly controlled or managed by any person or persons who are not a British subject or subjects or a Company in every respect answering to the description and satisfying the conditions last hereinbefore mentioned.

(16) The licensee being a Company or Corporation shall report to the Local Government any alteration in its Memorandum or Articles of Association, or in its constitution within* after the same shall have been made and shall give two months' previous notice in writing to the Local Government of any intention or proposal to make any such alteration which might conceivably affect its British status or character and no such alteration shall be made unless the Local Government shall have previously consented thereto in WRITING PROVIDED always that the consent of the Local Government shall not be refused to any such alteration as aforesaid in the Memorandum and Articles of Association or the constitution of the licensee unless in its opinion such alterations shall be contrary to the cardinal principle laid down by Government in respect of the said minerals that is to say that the license or licensees shall be and remain a

* Here insert suitable period within which report should be sent.

British subject or British subjects or a British Company under British control.

(17) (*a*) The Secretary of State shall from time to time and at all times during the said term have the right (to be exercised by notice in writing to the $\frac{\text{licensee}}{\text{licensees}}$ under the hand of any Secretary to Government) of pre-emption of the said minerals (and all products thereof) lying upon the said lands or elsewhere under the control of the $\frac{\text{licensee}}{\text{licensees}}$ and the $\frac{\text{licensee}}{\text{licensees}}$ shall with all possible expedition and so as to avoid demurrage on the vessel or vessels engaged to convey the same deliver all minerals or products of minerals purchased by the Secretary of State under the power conferred by this provision in the quantities at the times in the manner and at the place of shipment or storage specified in the notice exercising the said right.

(*b*) Should the right of pre-emption conferred by this present provision be exercised and a vessel chartered to carry the minerals or products thereof procured on behalf of the Secretary of State hereunder be detained on demurrage at the port of loading the $\frac{\text{licensee}}{\text{licensees}}$ shall pay the amount due for demurrage according to the terms of the charter party of such vessel unless the Secretary of State shall be satisfied that the delay is due to causes beyond the control of the $\frac{\text{licensee}}{\text{licensees}}$

(*c*) The price to be paid for all minerals or products of minerals taken in pre-emption by the Secretary of State in exercise of the right hereby conferred shall be the fair market price for the time being to be determined in default of agreement by the Local Government under the provision hereinafter in head or part V of these presents contained PROVIDED that in order to assist in arriving at the said fair market price the $\frac{\text{licensee}}{\text{licensees}}$ shall if so required furnish to the Local Government for the confidential information of the Secretary of State particulars of the quantities descriptions and prices of the said minerals or products thereof sold to other customers and of charters entered into for freight for carriage of the same and shall produce to such officer or officers as may be directed by the Local Government original or authenticated copies of contracts and charter parties entered into for the sale or freightage of such minerals or products.

(*d*) On the occasion of a state of emergency of which the Secretary of State shall be the sole judge and notice in writing under the hand of any Secretary to Government shall be conclusive evidence the $\frac{\text{licensee}}{\text{licensees}}$ shall on receiving such notice requiring $\frac{\text{him}}{\text{them}}$ so to do use $\frac{\text{his}}{\text{their}}$ utmost endeavours to

increase the supply to or for the Secretary of State of the minerals or products thereof purchased by him as aforesaid to the extent specified in such notice.

Powers of Government.

III. It is hereby agreed as follows:—

(1) If the licensee/licensees at any time shall fail to observe or perform or shall act in contravention of any of the covenants on the part of the licensee/licensees hereinbefore contained or in case it shall appear to the Local Government that its sanction to any such assignment transfer grant arrangement compact or understanding as mentioned in clause (9) of the covenants by the licensee/licensees hereinbefore in head or part II of these presents contained was improperly obtained or that any improper use of the rights or powers under any such arrangement compact or understanding as aforesaid of any party thereto has been made by or with the connivance of the licensee/licensees then and in any such case and notwithstanding the waiver of any previous default of the like nature the Collector may by notice in writing delivered to the licensee/licensees or left upon the said lands declare this licence to be determined and thereupon this licence and all rights and powers conferred hereby upon the licensee/licensees shall cease without prejudice however to the rights and remedies of the Secretary of State in respect of any breach or non-performance or non-observance of any of the covenants hereinbefore contained and except in respect of the covenants on the part of the licensee/licensees and stipulations to be performed or to have effect after the determination of this licence or after the abandonment of the operations hereby licensed.

Upon any occasion on which notice declaring this licence to be determined may be given as aforesaid the Collector in lieu of giving such notice may by notice in writing delivered or left as aforesaid declare the said deposit of Rs.   or any part thereof or any further sum deposited under the licensee's/licensees' covenant in that behalf hereinbefore contained to be forfeited to the Secretary of State and the amount so declared to be forfeited shall thereupon become the absolute property of the Secretary of State unless the Local Government on reference made to it by the licensee/licensees within thirty days next after the delivery or leaving of such notice shall otherwise determine.

(2) The Collector may from time to time appropriate and apply the said deposit of Rs.   or any part thereof

or any further sum deposited under the licensee's/licensees' covenant in that behalf hereinbefore contained in or towards payment or satisfaction of any claims to compensation which may be made by any person or persons against the licensee/licensees and the Secretary of State in respect of any damage or injury done by the licensee/licensees in exercise of any of the powers conferred by this licence and in or towards payment of any damages costs and expenses which may become payable as the result of or in connexion with any suits or proceedings which may be instituted against the Secretary of State in respect of any such damage or injury and also in or towards the payment of the expenses of the carrying out or performance of any works or matters which the licensee/licensees shall fail to carry out or perform after the determination of this licence or the abandonment of the operations hereby licensed in accordance with the covenant in that behalf hereinbefore contained or in payment or satisfaction of any such claims damages costs and expenses.

(3) If any buildings structures plant engines machinery implements utensils or other property or effects or any minerals which ought to be removed by the licensee/licensees from the said lands in accordance with the covenant in that behalf hereinbefore contained be not so removed within one calendar month after notice in writing requiring their removal shall have been delivered to the licensee/licensees by the Collector or left by him upon the said lands the same shall be deemed to become the property of the Secretary of State and may be sold or disposed of for the benefit of the Secretary of State in such manner as he shall deem fit without liability to pay any compensation or to account to the licensee/licensees in respect thereof.

(4) If any of the works or matters which in accordance with the covenant in that behalf hereinbefore contained are to be carried out or performed by the licensee/licensees within six calendar months after the expiration or sooner determination of this licence or the abandonment of the operations hereby licensed be not so carried out or performed the Secretary of State may cause the same to be carried out or performed and the licensee/licensees shall pay to the Secretary of State on demand all expenses which shall be incurred in such carrying out or performance of the same.

(5) In the event of war or on the occasion of a state of emergency of which the Secretary of State shall be the sole judge, and the notice next hereinafter mentioned shall be conclusive evidence the Secretary of State may forthwith after

notice in writing to the licensee/licensees under the hand of any Secretary to Government of his intention so to do take possession or assume control of the works plant machinery and premises of the licensee/licensees on or in connexion with the said lands or the mining operations under this licence and the licensee/licensees shall conform to and obey all directions given by or on behalf of the Secretary of State regarding the use or employment of such works plant and premises PROVIDED THAT fair compensation which shall be determined in default of agreement by the Local Government under the provision hereinafter in head or part V of these presents contained shall be paid to the licensee/licensees for all loss or damage sustained by him/them by reason or in consequence of the exercise of the powers conferred by this clause and PROVIDED ALSO that the exercise of such powers shall not determine the said term hereby granted or affect the terms and provisions of these presents further than may be necessary to give effect to the provisions of this clause.

*III-A. And it is further agreed and declared that every mining lease which may hereafter be granted to the licensee/licensees whether under the provisions of this licence or of any other licence heretofore granted to the licensee/licensees shall (subject to the said rules) contain such consideration and stipulations as the Local Government may consider necessary and that every lease of natural petroleum heretofore granted to the licensee/licensees shall be deemed to contain—

(1) a covenant by the licensee/licensees that the licensee/licensees will duly observe and perform all the restrictions and conditions imposed upon him/them by such lease including all such restrictions and conditions as may be imposed upon him/them in exercise of the power hereinafter defined;

(2) a covenant by the licensee/licensees that the licensee/licensees will not assign or sublet the premises demised by such lease or any part thereof or the rights and privileges thereby granted or any of them or transfer any right or interest thereunder without the consent in writing of the Secretary of State under the hand of a Secretary to the Local Government first had and obtained and that the licensee/licensees will not without such consent so indicated as aforesaid come to any arrangement compact or understanding with any Trust Syndicate Corporation firm or person whereby the licensee/licensees may be directly or

* To be used if the licence grants, or includes, the right to prospect for natural petroleum or natural gas.

indirectly financed by or under which the licensee's/licensees' operations or undertakings may be carried on directly or indirectly by or for the benefit of or subject to the control of any such Trust Syndicate Corporation firm or person;

(3) an agreement and declaration that on the occasion of a state of emergency of which the Governor-General of India in Council shall be the sole judge it shall be lawful for the Secretary of State at any time by notice in writing under the hand of a Secretary to the Local Government to revoke his consent to any such arrangement compact or understanding as aforesaid and upon such revocation such arrangement compact or understanding shall forthwith cease to be of any effect and that if the Local Government shall be satisfied that such consent as aforesaid was improperly obtained or that the licensee/licensees or the Trust Syndicate Corporation firm or person with whom such arrangement compact or understanding as aforesaid was come to has made any improper use of his or its powers under such arrangement compact or understanding then it shall be lawful for the Secretary of State to determine such lease by a notice in writing under the hand of a Secretary to the Local Government delivered to the licensee/licensees or any of his Managers or Agents or left upon the premises demised by such lease;

(4) an arrangement and declaration that notwithstanding anything in such lease contained it shall be lawful for the Secretary of State by notification by the Local Government or by notice in writing under the hand of a Secretary to the Local Government from time to time to impose upon the licensee/licensees vary and rescind such restrictions and conditions as to the Secretary of State may appear necessary or desirable for the purpose of securing the refinement in British Indian Territory of all natural petroleum which may be won from the lands demised by such lease.

Rights of licensee.

IV. (1) During the subsistence of this licence the licensee/licensees shall have the right subject to compliance with the said rules to a mining lease in accordance with the said rules in respect of over so much of the said lands as the licensee/licensees may desire and the Local Government shall think fit to grant and to the first offer of such mining lease in respect of precious stones within the said lands as the Governor-General in Council may think fit to grant.

(2) If during the term hereby granted the licensee/licensees shall apply in accordance with the said rules for a mining lease of the said lands or any part thereof this licence shall upon the expiration by effluxion of time of the term hereby granted

if the $\frac{\text{licensee}}{\text{licensees}}$ shall by notice in writing to the Collector so require be extended for a further term to end either on the date on which such lease shall be granted or on such other date as the Collector shall in his discretion prescribe.

(3) If upon the expiry of the term hereby granted the Collector shall be satisfied that the $\frac{\text{licensee has}}{\text{licensees have}}$ been prevented by causes beyond the control of the $\frac{\text{licensee}}{\text{licensees}}$ from completing $\frac{\text{his}}{\text{their}}$ search of the said lands this licence shall if the $\frac{\text{licensee}}{\text{licensees}}$ shall by notice in writing to the Collector so require and subject to the payment by the $\frac{\text{licensee}}{\text{licensees}}$ of the fees prescribed by the said rules for the renewal thereof be renewed for such further term or terms not exceeding one year each as the $\frac{\text{licensee}}{\text{licensees}}$ may desire and subject to the like covenants and stipulations in all respects as are herein contained PROVIDED that the total period for which this licence shall be operative shall not exceed three years including the period for which the licence was originally granted:—

PROVIDED that if the $\frac{\text{licensee is}}{\text{licensees are}}$ engaged in prospecting for natural petroleum or natural gas and if upon the expiration of such period of three years as aforesaid the Collector is satisfied that a still further period is required in order to enable the $\frac{\text{licensee}}{\text{licensees}}$ to complete $\frac{\text{his}}{\text{their}}$ search of the lands this licence shall be renewed subject as hereinbefore provided in respect of natural petroleum or natural gas only for a further term or terms not exceeding one year each PROVIDED that the total period for which this licence shall be operative shall not exceed five years including the period for which the licence was originally granted.

(4) On such date within six calendar months after the determination of this licence as the Collector shall elect the amount then remaining in deposit with the Collector and not required by the Collector to be applied to any of the purposes in the last preceding clause mentioned shall be refunded to the $\frac{\text{licensee}}{\text{licensees}}$ or if the $\frac{\text{licensee}}{\text{licensees}}$ shall have obtained a mining lease of the said lands or any portion thereof be retained at the credit of the $\frac{\text{licensee}}{\text{licensees}}$ on account of the rents and royalties or deposit money to become payable under such lease.

(5) If and whenever any dispute or question shall arise regarding the construction meaning or effect of these presents or the rights powers liabilities or duties of the $\frac{\text{licensee}}{\text{licensees}}$ hereunder or as to the amount or payment of any royalty or other money payable by virtue hereof or otherwise however in relation to these presents such dispute or question shall be referred to the Local Government whose decision thereon shall be final and binding on the parties hereto.

IN WITNESS WHEREOF these presents have been executed in manner hereunder appearing the day and year first above written.

Schedule A.

Here insert description of lands with area, boundaries, names of District, Sub-district, Thana, etc., and cadastral survey numbers, if any.

Schedule B.

Here insert the rates of royalty

Schedule C.

Here insert the quantities which may be taken free of royalty.

Signed by

[name and designation]

for and on behalf of the
acting in the premises for and on behalf of the Secretary of State for India in Council in the presence of

(1) Signed by the abovenamed
(by his/their attorney) in the presence of

(1) This clause is to be used where the licence is granted to one or more individuals (the name of the constituted attorney being filled in if the licensee or licensees do not sign personally).

(2) Signed in the name and on behalf of the abovenamed
by
Director of the said Company in the presence of

(2) This clause is to be used where the licence is granted to a registered company and if the signature is by an agent or attorney the appropriate designation should be inserted in place of the word 'director'.

(3) This clause is to be used where the licence is granted to one unincorporated syndicate.

(3) Signed in the name and on behalf of the abovenamed
by their authorized agent
in the presence of

(4) This clause is to be used where the licence is granted to a private firm (the name of the attorney or agent being filled in if the signature is not by a partner in the firm).

(4) Signed by the abovenamed
(by their $\frac{\text{attorney}}{\text{agent}}$)
in the presence of

APPENDIX VIII.

[See Rule 30 (vi) in Chapter VI.]

Form of agreement for use in connexion with the transfer of a prospecting licence.

AN AGREEMENT dated and made BETWEEN THE SECRETARY OF STATE FOR INDIA IN COUNCIL (hereinafter called the Secretary of State which expression shall be deemed to include his successors in office and assigns) of the one part and [hereinafter called the transferee(s) which expression shall where the context so admits or implies be deemed to include $\frac{\text{his}}{\text{their}}$ (respective) heirs executors administrators and assigns] of the other part WHEREAS by virtue of a licence (hereinafter called the licence, dated and made between the Secretary of State and (A)

(B) [and now vested by transfer in hereinafter called the licensee(s)] the licensee(s) $\frac{\text{is}}{\text{are}}$ entitled to search for and work the mines and minerals therein mentioned for the term and subject to the payment of the rent and royalties and the observance and performances of the licensees' covenants and conditions in the licence reserved and contained including a covenant not to assign the licence or any interest thereunder without the previous sanction of the Local Government AND WHEREAS the licensee(s) $\frac{\text{is}}{\text{are}}$ desirous of transferring and assigning the licence to the transferee(s) and the Local Government have at the request of the licensee(s) granted sanction to such transfer and assignment upon condition of the transferee(s) entering into an agreement in and containing the terms and conditions hereinafter set forth.

(A) Name of original licensee.
(B) If there has been no previous transfer strike out the words in brackets here. If there has been a previous transfer fill in the name of the holder in the blank within the brackets.

NOW IT IS HEREBY AGREED AND DECLARED by the transferee(s) with and to the Secretary of State that from and after the transfer and assignment of the licence by the licensee(s) to the transferee(s) the transferee(s) shall be bound by and liable to perform and observe and conform and be subject respectively to all the provisions and conditions of all the covenants and stipulations on the part of the licensee(s) and conditions in the licence contained in the same manner in all respects as if the licence had been granted to the transferee(s) as the licensee(s) thereunder and $\frac{\text{he}}{\text{they}}$ had originally executed it as such and the transferee(s) hereby undertake(s) and agree(s) with the Secretary of State to perform and observe the same covenants stipulations and conditions in all respects accordingly.

AS WITNESS the hands of the parties

APPENDIX IX.

[See Rule (46) in Chapter VI.]

Standard form of mining lease.

THIS INDENTURE made this day of 19 Between the Secretary of State for India in Council hereinafter referred to as "The Secretary of State" (which expression shall where the context so admits be deemed to include his successors in office and assigns) of the one part

(1)—(1) This wording is to be used where the lease is granted to one individual.

and (1) [name of person]
of [address and occupation]
hereinafter referred to as "the lessee" (which expression shall where the context so admits be deemed to include his heirs executors administrators representatives and permitted assigns) (1)

(2)—(2) This wording is to be used where the lease is granted to more than one individual.

and (2) [name of person]
of [address and occupation]
and [name of person]
of [address and occupation]
and [name of person]
of [address and occupation]
hereinafter referred to as "the lessees" (which expression shall where the context so admits be deemed to include their respective heirs executors administrators and representatives and their permitted assigns) (2)

(3)—(3) This wording is to be used where the lease is granted to a registered company.

and (3) [name of company] Limited incorporated in [country] and having its registered office at [address]
hereinafter referred to as "the lessee" (which expression shall where the context so admits be deemed to include its permitted assigns) (3)

(4)—(4) This wording is to be used where the lease is granted to an unincorporated syndicate.

and (4) the unincorporated body called [name of syndicate] having their principal place of business at [address] hereinafter referred to as "the lessees" (which expression shall where the context so admits be deemed to mean and include the persons or corporations who for the time being may be members of and the permitted assigns of [name of syndicate]) (4)

(5)—(5) This wording is to be used where the lease is granted to a firm.

and (5) the firm of [name of firm] having their principal place of business at [address] hereinafter referred to as "the lessees" (which expression shall where the context so admits be deemed to mean and include the persons who for the time being may be members of and the permitted assigns of [name of firm]) (5) of the other part

WITNESSETH that in consideration of the rents and royalties covenants and agreements by and in these presents and the Schedule hereunder written reserved and contained and on the part of the $\frac{\text{lessee}}{\text{lessees}}$ to be paid observed and performed the Secretary of State hereby grants and demises unto the $\frac{\text{lessee}}{\text{lessees}}$ *all those* the mines beds veins and seams of

(hereinafter and in the said schedule referred to as "the said minerals") situate lying and being in or under the lands which are referred to in Part I of the said schedule *together* with the liberties powers and privileges to be exercised or enjoyed in connexion therewith which are *mentioned* in Part II of the said schedule *subject* to the restrictions and conditions as to the exercise and enjoyment of such liberties powers and privileges which are mentioned in Part III of the said schedule *except* and reserving out of this demise unto the Secretary of State the liberties *powers and privileges* mentioned in Part IV of the said schedule *to hold* the premises hereby granted and demised unto the $\frac{\text{lessee}}{\text{lessees}}$ from the day of 19 , for the term of years thence next ensuing *yielding* and paying therefor unto the Secretary of State the several rents and royalties mentioned in Part V of the said schedule at the respective times therein specified *subject to the provisions* contained in Part VI of the said schedule AND the $\frac{\text{lessee}}{\text{lessees}}$ hereby $\frac{\text{covenants}}{\text{covenant}}$ with the Secretary of State as in Part VII of the said schedule is expressed AND the Secretary of State hereby covenants with the $\frac{\text{lessee}}{\text{lessees}}$ as in Part VIII of the said schedule is expressed AND it is hereby mutually agreed between the parties hereto as in Part IX of the said schedule is expressed.

IN WITNESS whereof these presents have been executed in manner hereunder appearing the day and year first above written.

The schedule above referred to—

Part I.—The area of this lease.

All that tract of land situate at **Desoription of area.**

in (Pargana)

in the Registration District of

Sub-District

and Thana

bearing Cadastral Survey Nos. containing an area of

or thereabouts delineated on the plan hereto annexed and

thereon coloured

and bounded as follows:—

On the north by
on the south by
on the east by
and on the west by

Part II.—Liberties powers and privileges to be exercised or enjoyed by the $\frac{\textit{lessee}}{\textit{lessees}}$ subject to the restrictions and conditions in Part III.

Liberty to work mines.

1. Liberty and power to enter upon the lands referred to in Part I (hereinafter referred to as "the said lands") and to search for win work get raise [convert] and carry away the said minerals.

Liberty to sink pits, etc [and use existing pits, etc.].

2. *Liberty and power for or in connexion with any of the purposes mentioned in this Part to sink drive make maintain and use in the said lands any pits shafts inclines drifts levels waterways airways and other works [and to use maintain deepen or extend any existing works of the like nature in the said lands].*

Liberty to make works [and use existing works].

3. *Liberty and power for or in connexion with any of the purposes mentioned in this Part to erect construct maintain and use on or under the said lands any engines machinery plant dressing floors furnaces [coke-ovens] brick-kilns lime-kilns workshops storehouses bungalows godowns sheds and other buildings and other works and conveniences [and to use and maintain any existing works and conveniences of the like nature on or under the said lands].*

Liberty to make roads and ways [and use existing roads and ways].

4. *Liberty and power for or in connexion with any of the purposes mentioned in this Part to make any tramways railways roads and other ways in or over the said lands and to use maintain and go and repass with or without horses cattle wagons or locomotives over the same [or any existing tramways railways roads and other ways in or over the said lands].*

Liberty to get building and road materials, make bricks, etc.

5. *Liberty and power for or in connexion with any of the purposes mentioned in this Part to quarry and get stone sand gravel and other building and road materials and clay and to use and employ the same and to manufacture such clay into bricks or tiles and to use such bricks or tiles but not to sell any such materials bricks or tiles.*

Liberty to use water.

6. *Liberty and power for or in connexion with any of the purposes mentioned in this Part to appropriate and use any streams watercourses springs or water in or upon the said lands and to divert stop up or dam any such stream or watercourse and collect or impound any water and to make construct and maintain any watercourses culverts drains and reservoirs but not so as to deprive any cultivated lands*

villages buildings or watering places for livestock of a reasonable supply of water as before accustomed nor in any way to foul or pollute any streams or springs.

7. *Liberty and power to enter upon and use a sufficient part of the surface of the said lands adjacent to any pits or works for the purpose of stacking heaping or depositing thereon any produce of the mines or works carried on and any earth materials and substances dug or raised under the liberties and powers mentioned in this Part.* *Liberty to use land for stacking.*

* 8. *Liberty and power upon the said lands to convert into coke any coal produced from the said lands and to carry away such coke.* *Liberty to make coke.*

9. *Liberty and power for or in connexion with any of the purposes mentioned in this Part to fell cut and use any timber or trees now standing or which hereafter may be standing upon the reserved forest land included within the said lands provided that not more than acres of such reserved forest land shall be cleared in any one year nor the same place oftener than once in every year and not more than trees shall be felled in any one year and provided also that the exercise of the liberty and power expressed in this clause shall be subject to the observance of the terms and conditions following that is to say.* *Liberty to take timber from reserved forest.*

Part III.—Restrictions and conditions as to the exercise of the liberties powers and privileges in Part II.

1. *No building or thing shall be erected set up or placed and no surface operations shall be carried on in or upon any public pleasure ground burning or burying ground or place held sacred by any class of persons or any house or village site public road or other place which the Local Government within the territories administered by which the said lands are situate (hereinafter called the Local Government) may determine on public grounds to bring within this restriction nor in such a manner as to injure or prejudicially affect any buildings works property or rights of other persons and no land shall be used for surface operations which is already occupied by persons other than the Secretary of State for works or purpose not included in this lease if any other land not so occupied is suitable and available for such surface operations.* *No building, etc., upon certain places.*

2. *Before using for surface operations any land which has not already been used for such operations the $\frac{\text{lessee}}{\text{lessees}}$ shall give to the for the time being as the agent in that behalf of the Secretary of State two calendar months' previous notice in writing specifying the name or other designation the situation and the quantity of the land proposed to be so used and the purpose for which the* *No surface operations upon land not already used therefor unless after notice and unless no objections thereto.*

* To be used in the case of coal only.

same is required and such land shall not be so used if the said agent shall within two calendar months after the receipt by him of such notice state some objection to such use unless the objection or objections so stated shall on reference to the Local Government be annulled or waived by such Government.

Except as provided in (Part II) no timber to be cut without sanction of Collector.

3. *Save as provided in clause 9 of Part II of this Schedule* the $\frac{\text{lessee}}{\text{lessees}}$ shall not *without the express sanction of the Collector* cut down or injure *any timber or* trees on the said lands *but may without such sanction clear away any brushwood or undergrowth which interferes with any operations authorized by these presents.*

No reserved forest to be entered upon without sanction of District Forest Officer.

Notwithstanding anything in this Schedule contained the $\frac{\text{lessee}}{\text{lessees}}$ shall not enter upon any reserved forest included in the said lands without thirty days' previous notice in writing to the District Forest Officer nor without obtaining the sanction in writing of that officer nor otherwise than in accordance with such conditions as that officer may in his absolute discretion prescribe.

No workings within 50 yards of public works, etc., except with previous permission.

4. No mining operations or workings shall be carried on or permitted to be carried on by the $\frac{\text{lessee}}{\text{lessees}}$ in or under the said lands at or to any point within a distance of 50 yards from any railway reservoir canal or other public works or any building or inhabited site shown on the plan hereto annexed except with the previous permission in writing of the Governor-General of India in Council or some officer authorized by him in that behalf or otherwise than in accordance with such instructions restrictions and conditions either general or special which may be attached to such permission. The said distance of 50 yards shall be measured in the case of a railway reservoir or canal horizontally from the outer toe of the bank or the outer edge of the cutting as the case may be and in the case of a building horizontally from the plinth thereof.

For the purpose of this clause the expression "railway" shall have the same meaning as it is defined to have in the Indian Railways Act, 1890, by section 3 (4) of that Act.

Part IV.—Liberties powers and privileges reserved to the Secretary of State.

Liberty to work other minerals.

1. Liberty and power for the Secretary of State or any lessee or person authorized by him in that behalf to enter into and upon the said lands and to search for win work dig get raise (convert) and carry away any minerals other than the said minerals and any other substances and for those purposes to sink drive make erect construct maintain and use such pits shafts inclines drifts levels waterways airways watercourses

drains reservoirs engines machinery plant buildings canals tramways railways roads ways and other works and conveniences as may be deemed necessary or convenient *provided* that in the exercise of such liberty and power no hindrance or interference shall be caused to or with the liberties powers and privileges of the lessee/lessees under these presents and that fair compensation shall be made to the lessee/lessees for all loss or damage sustained by the lessee/lessees by reason or in consequence of the exercise of such liberty and power.

2. Liberty and power for the Secretary of State and any lessee or person authorized by him in that behalf to enter into and upon the said lands and to make upon over or through the same any railways tramways or roads for any other than the purposes aforesaid and to get from the said lands stone gravel earth and other materials for making maintaining and repairing such railways tramways and roads or any existing railways tramways and roads and to go and repass at all times over or along any such railways tramways or roads for all purposes and as occasion may require. **Liberty to make railways and roads.**

Part V.—Rents and royalties reserved by this lease.

1. The lessee/lessees shall as from the day of 19 during the subsistence of this lease pay to the Secretary of State the certain half-yearly rent of Rs. on the day of and the day of in each year the first payment thereof to be/having been made on the day of 19 in respect of which rent the lessee/lessees may in the half-year in respect of which the same is payable sell (convert) and carry away such aggregate quantity of the said minerals* or of crude oil extracted therefrom or of both as at the rates in the next succeeding clause mentioned would produce royalties for that half-year equal in amount to the said half-yearly rent but the said half-yearly rent shall be paid whether such quantity shall be sold (converted) and carried away or not. **Fixed half-yearly rent.**

To be used in the case of iron ore only.

PROVIDED that when the licensee holds/lessees hold more than one lease for the said minerals within the territories administered by the Local Government within whose jurisdiction the said lands are situate the lessee/lessees may if he/they so desire(s) and

* To be used in the case of oil shale only.

provided $\frac{\text{he claims}}{\text{they claim}}$ the privilege before any payment is due require that for the purpose of ascertaining whether royalty is payable under the said leases all such leases held by $\frac{\text{them}}{\text{him}}$ shall be treated as if they were one lease, so that $\frac{\text{he}}{\text{they}}$ shall be entitled upon payment in any half-year of the total certain half-yearly rents payable under those leases to sell and carry away free of royalty in that half-year such aggregate quantity of the said minerals from any one or more of the lands demised unto the $\frac{\text{lessee}}{\text{lessees}}$ by any one or more of those leases as at the respective rates prescribed in those leases would produce royalties for that half-year equal in amount to the total certain half-yearly rents payable under those leases for that half-year: provided always that when the $\frac{\text{lessee claims}}{\text{lessees claim}}$ the privilege mentioned in the foreging proviso the Local Government shall be entitled (having regard to the circumstances of the case and nothwithstanding any provisions relating to the certain half-yearly rents contained in the said leases) to fix any amount other than the total of the said certain half-yearly rents as the combined half-yearly rent in respect of all the said leases and if the Local Government so fixes an amount as the combined half-yearly rent in respect of all the said leases then the first proviso contained in this clause shall be read and have effect as if for the words "the total certain half-yearly rents payable under those leases" the words "the amount fixed by the Local Government under the next proviso as the combined half-yearly rent in respect of the leases" were substituted.

Royalties. 2. The $\frac{\text{lessee}}{\text{lessees}}$ shall during the subsistence of this lease pay to the Secretary of State on the day of and the day of in each year—

[royalty at the rate of 5 per cent of the sale value at the pit's mouth or 2 annas per ton whichever shall be the greater of all coal produced from the said lands which shall be sold upon the said lands or carried away therefrom or converted into coke thereon by the $\frac{\text{lessee}}{\text{lessees}}$ and at the rate of $2\frac{1}{2}$ per cent of the sale value at the pit's mouth or 1 anna per ton whichever shall be greater of all coal dust produced from the said lands which shall be sold upon the said lands or carried away therefrom (or converted into coke thereon) by the $\frac{\text{lessee}}{\text{lessees}}$ during the half-year preceding the said dates respectively in excess of the aggregate quantity which the $\frac{\text{lessee is}}{\text{lessees are}}$ authorized to sell convert and carry away in that half-year in respect of the said certain half-yearly rent provided that no royalty shall be payable in respect of any

coal or coal dust which may be actually consumed in the engines or furnaces or otherwise consumed in working the mines and works of the $\frac{\text{lessee}}{\text{lessees}}$ in or upon the said lands or supplied without charge to the managers agents and workmen of the $\frac{\text{lessee}}{\text{lessees}}$ employed on the said lands nor shall such coal or coal dust be taken into account in reckoning the quantity of coal which the $\frac{\text{lessee is}}{\text{lessees are}}$ authorized to sell convert and carry away in respect of the said certain half-yearly rent.]

To be used in the case of iron-ore intended to be used for the extraction of iron.

[Royalty at the rate of one anna for every ton of all iron-ore produced from the said lands which shall be sold upon the said lands or carried away therefrom by the $\frac{\text{lessee}}{\text{lessees}}$ during the half-year preceding the said dates respectively in excess of the quantity which the $\frac{\text{lessee is}}{\text{lessees are}}$ authorized to sell and carry away in that half-year in respect of the said certain half-yearly rent provided always that if and whenever the tariff valuation for imported pig iron as fixed by the Governor-General in Council under the Indian Tariff Act and for the time being in force exceeds Rs. 65 per ton a further one anna per ton royalty shall become payable hereunder for every Rs. 15 or part thereof by which such tariff valuation of pig iron exceeds Rs. 65 per ton provided further that should the tariff valuation of pig iron become fictitious owing to cessation of import or any other cause (as to which the decision of the Governor-General in Council shall be final) the market value of pig iron for the purpose of the assessment of royalty payable shall be determined by the Governor-General in Council whose decision shall be final and such valuation shall be in force from such date and for such period as may be determined by the Governor-General in Council.]

To be used in the case of iron-ore in Burma when intended to be used solely for fluxing purposes.

[Royalty at the rate of $\frac{1}{2}$ anna for every ton of all iron-ore produced from the said lands which shall be sold upon the said lands or carried away therefrom by the $\frac{\text{lessee}}{\text{lessees}}$ during the half-year preceding the said dates respectively in excess of the quantity which the $\frac{\text{lessee is}}{\text{lessees are}}$ authorized to sell and carry away in that half-year in respect of the said certain half-yearly rent.]

[Royalty at the rate of 5 per cent of the sale value at the pit's mouth of all mica produced from the said lands which

shall be *sold* upon the said lands or carried away therefrom by the $\frac{\text{lessee}}{\text{lessees}}$ during the half-year preceding the said dates respectively in excess of the quantity which the $\frac{\text{lessee is}}{\text{lessees are}}$ authorized to sell and carry away in that half-year in respect of the said certain half-yearly rent.]

[Royalty at the rate of $7\frac{1}{2}$ per cent of the profits on all $\frac{\text{gold}}{\text{silver}}$ *produced from the said lands which shall be sold* by the $\frac{\text{lessee}}{\text{lessees}}$ or at the option of the Local Government $2\frac{1}{2}$ per cent of the gross value at
of all $\frac{\text{gold}}{\text{silver}}$ produced from the said lands which shall be sold or carried away by the $\frac{\text{lessee}}{\text{lessees}}$ during the half-year preceding the said dates respectively in excess of the quantity which the $\frac{\text{lessee is}}{\text{lessees are}}$ *authorized to sell and* carry away in that half-year in respect of the said *certain half-yearly rent.*]

[Royalty at the rate of 5 per cent *ad valorem* on the well-head value or 8 annas for every forty gallons whichever shall be the greater of all natural petroleum produced from the said lands which shall be sold *upon the said lands or carried* away therefrom by the $\frac{\text{lessee}}{\text{lessees}}$ during the half-year preceding *the said* dates respectively in excess of the quantity which the $\frac{\text{lessee is}}{\text{lessees are}}$ authorized to sell and carry away in that half-year in respect of the said certain half-yearly rent.]

[Royalty at the rate of 8 annas for every 40 gallons of all crude oil which the $\frac{\text{lessee}}{\text{lessees}}$ may extract within the territories administered by the Local Government from oil-shale produced from the said lands and at the rate of one rupee per ton of all oil-shale produced from the said lands which is not used or not intended to be used for the purpose of extraction of crude oil as aforesaid and which shall be sold upon the said *lands or carried* away *therefrom* by the $\frac{\text{lessee}}{\text{lessees}}$ during the *half-year* preceding the said dates respectively in excess of the aggregate quantity which the $\frac{\text{lessee is}}{\text{lessees are}}$ authorized to sell and carry away in that half-year in respect of the said *certain* half-yearly rent.]

[Royalty at *the rate of* 5 per cent on the well-head value or 8 annas per 40 gallons whichever shall be the greater of all natural petroleum produced *from the said lands* which shall be sold upon the said lands or carried away therefrom by the $\frac{\text{lessee}}{\text{lessees}}$ and at the rate of 5 per cent on the well-head value

of all natural gas produced from the said lands which shall be sold by the lessee/lessees or utilized by him/them for any purpose other than the production of natural petroleum or natural gas during the half-year preceding the said dates respectively in excess of the aggregate quantity which the lessee is/lessees are authorized to sell convert and carry away in that half-year in respect of the said certain half-yearly rent PROVIDED ALWAYS that in the case of natural gas converted into gasoline the well-head value shall be calculated on the volume of gasoline manufactured and shall be deemed to be equivalent to the selling value of gasoline less the cost of its manufacture and the royalty payable thereon shall be subject to a minimum of 8 annas per 40 gallons of gasoline manufactured PROVIDED FURTHER that the Local Government shall be entitled to convert at its option at any time 5 per cent rate of royalty payable on natural petroleum or natural gas to an equivalent charge per 40 gallons of natural petroleum or gasoline (not being less than 8 annas) or per 1,000 cubic feet of natural gas, as the case may be, and such conversion shall be in force for a period not exceeding one year at a time from any of the said dates as may be determined by the Local Government.]

3. The lessee/lessees shall pay to the Secretary of State in respect of all parts of the surface of the said lands which shall from time to time be occupied or used by the lessee/lessees under the authority of these presents rent at the rate of Rs. per annum per of the area so occupied or used and so in proportion for any area less than a during the period from the commencement of such occupation or use until the area shall cease to be so occupied or used and shall be restored to its original condition which rent shall be computed and shall be paid on each of the half-yearly dates hereinbefore appointed for payment of the said certain half-yearly rent *provided* that no such rent shall be payable in respect of the occupation or use of the area comprised in any roads or ways existing on the said lands at the commencement of the term of this lease. **Surface rent.**

Part VI.—Provisions relating to the rents and royalties.

1. *The rents and royalties mentioned in Part V of this Schedule shall be paid free from any deductions to* **Place of payment.**

the

at

or to such other

officer and at such other place as the

shall from time to time appoint.

Provided always and it is hereby agreed that Rs. , the balance standing to the credit of the on account $\frac{\textit{lessee}}{\textit{lessees}}$ of the deposit made by $\frac{\textit{him}}{\textit{them}}$ on applying for this lease shall be retained and accepted by the Secretary of State in satisfaction of the rents and royalties mentioned in Part V until they reach that amount.

Average clause.

2. *If in any half-year after the first 12 months of the said term the $\frac{\textit{lessee}}{\textit{lessees}}$ shall not sell [convert] and carry away such aggregate quantity of the said minerals [or extract such quantity of crude oil therefrom*] as at the rates mentioned in clause 2 of Part V of this Schedule would produce royalties for that half-year equal in amount to the said certain half-yearly rent then and in such case the $\frac{\textit{lessee}}{\textit{lessees}}$ shall not in the next succeeding half-year pay any rent or royalty (other than the said certain half-yearly rent) in respect of the quantity of the said minerals sold (converted) or carried away [or of crude oil extracted therefrom*] in that half-year which is equivalent to the deficiency in the said minerals sold (converted) or carried away [or in crude oil extracted therefrom*] in the preceding half-year which shall at the rate or royalty payable during the succeeding half-year be required to produce royalties for the preceding half-year equal in amount to the said certain half-yearly rent.*

Mode of computation of royalty.

3. *For the purpose of computing the said royalties the weight of the coal and coal dust shall be ascertained at the time or respective times of the same being sold or despatched from the said lands or immediately before its conversion into coke as the case may be.*

For the purpose of computing the said royalty the $\frac{\textit{sale}}{\textit{gross}}$ value of the

shall be ascertained.

For the purpose of computing the said royalty the profits on the

shall be deemed to be the amount by which the revenue derived from the sale of such

shall exceed the expenditure in connexion with the

of the same including the expenses chargeable to the actual working and management of the mines and works of the $\frac{\textit{lessee}}{\textit{lessees}}$ during the period for which the royalty is to be computed. But there shall not be taken into account any allowances for depreciation or amortization or the fees of any Directors (save those Directors who actually direct technical operations and are specifically designated Managing Directors) or any revenue or expenditure obtained or incurred on account of share or capital transactions or by trading.

* *To be used in the case of oil-shale only.*

Part VII.—The Covenants of the lessee/lessees

To pay rents, royalties, rates and taxes.

1. The lessee/lessees shall pay the rents and royalty reserved by this lease at the times and in the manner provided in Parts V and VI *and shall also pay and discharge all taxes rates assessments and impositions whatsoever being in the nature of public demands which shall from time to time be charged assessed or imposed upon or in respect of the mines or works of the lessee/lessees or any part thereof by authority of the Government of India or the Local Government or otherwise except demands for land revenue and shall also pay interest at the rate of per cent per annum on all arrears of such rents or royalty from the date whereon the same ought to be paid under these presents.*

To erect boundary marks.

2. The lessee/lessees shall at the lessee's/lessees' own expense forthwith erect and at all times maintain and keep in repair boundary marks and pillars along the boundaries of the said lands according to the demarcation shown in the plan hereto annexed *and shall also in cases where in the opinion of the Local Government there is danger of mining operations extending beyond the boundary of the said lands keep the boundary line between the said marks and pillars sufficiently clear of shrubs and other obstructions to allow of easy identification of such boundary.*

To start operations within a year and to work continuously.

3. Unless good cause exists for exemption from this present covenant (a question on which the decision of the Local Government shall be final) the lessee/lessees shall within one year from the date of this lease start mining operations in the said lands to the satisfaction of the Local Government and shall unless exempted as aforesaid thereafter at all times during the continuance of this lease search for win work and develop the said minerals without voluntary intermission in a skilful and workmanlike manner and upon the most approved principle without doing or permitting to be done any unnecessary or avoidable damage to the surface of the said lands or the crops buildings structures or other property thereon and shall not cultivate or use the said lands in any manner other than as authorized by these presents.

To secure pits and shafts.

4. The lessee/lessees shall during the said term well and sufficiently secure and keep open with timber or other durable means all pits shafts and workings that may be made or used in the said lands and make and maintain sufficient fences round every such pit or shaft and also shall at all times during the said term keep all workings in the said lands except such as may be abandoned free from water and from foul air as far as possible.

To strengthen and support mines.

5. The $\frac{\text{lessee}}{\text{lessees}}$ shall on notice from the Secretary of State strengthen and support to his satisfaction any part or parts of the mine when in his opinion such strengthening and support is needed for the safety of any railway reservoir canal or other public work or any building whether the said railway reservoir canal or other public work or other building shall be existing during the working of such part or parts of the mine already existing or shall be constructed after the said part or parts of the mine have been worked out. Such strengthening and support shall be made and done at the expense of the $\frac{\text{lessee}}{\text{lessees}}$ if they are needed for the safety of any railway reservoir canal or other public work or other buildings as aforesaid already existing at the time of the working of the said part or parts of the mine by reason of the $\frac{\text{lessee}}{\text{lessees}}$ having conducted mining operations within the limits prohibited by clause 4 of Part III of this schedule and in other cases at the expense of the Secretary of State.

To allow inspection of working.

6. The agents servants and workmen authorized by the Local Government in this behalf shall be at liberty at all reasonable times during the said term to inspect and examine all mines and works carried on by the $\frac{\text{lessee}}{\text{lessees}}$ in or under the said lands and make surveys or plans thereof *and the* $\frac{\textit{lessee}}{\textit{lessees}}$ *shall with proper persons employed by the* $\frac{\textit{lessee}}{\textit{lessees}}$ *and acquainted with the mines and works effectually assist such agents servants and workmen in conducting every such inspection and shall afford them all information connected with the working of the mines which they may reasonably require and also shall and will conform to and observe all orders and regulations which the Local Government as the result of such inspection or otherwise may from time to time see fit to impose in the interests of public health and safety.*

To report accidents.

7. The $\frac{\text{lessee}}{\text{lessees}}$ shall without delay send to the Collector or the Deputy Commissioner of the district a report of any accident which may at any time occur at or in the said lands or any pit shaft or working therein.

To report discovery of other minerals.

8. Whenever the $\frac{\text{lessee}}{\text{lessees}}$ shall find in the said lands any mineral or product other than the said minerals the $\frac{\text{lessee}}{\text{lessees}}$ shall immediately report such discovery in writing to the Collector or Deputy Commissioner of the district with full particulars of the nature and position of each find.

To keep books of accounts and furnish abstracts, etc.

9. The $\frac{\text{lessee}}{\text{lessees}}$ shall at all times during the said term keep or cause to be kept at an office to be situate upon or near the said lands correct and intelligible books of accounts upon such plan or principle and in such form as may be approved

of by the Local Government which books shall contain accurate entries showing from time to time (1) the quantity of the said minerals realized from the said lands [(2) the quantity of coal converted into coke] (3) the quantity of the said minerals sold and exported respectively (4) the quantity of the said minerals otherwise disposed of and the manner and purpose of such disposition (5) the prices and other particulars of all sales of the said minerals (6) the number of persons employed in the mines or works in or upon the said lands, and (7) all such other facts particulars and circumstances as the Local Government may consider necessary for conveniently ascertaining the amount of the royalty from time to time payable under these presents and the $\frac{\text{lessee}}{\text{lessees}}$ shall also furnish free of charge to such officer and at such times as the Local Government may appoint true and correct abstracts of all or any of such books of account and such information and returns as to all or any of the matters aforesaid as the Local Government may prescribe and shall at all reasonable times allow such officers as the Local Government shall in that behalf appoint to enter into and have free access to the said office for the purpose of examining and inspecting the said books of accounts and to take copies thereof and make extracts therefrom.

To keep plans of working.

10. The $\frac{\text{lessee}}{\text{lessees}}$ shall at all times during the said term cause to be made and kept at the said office correct and intelligible plans and sections of the mines in the said lands which plans and sections shall show as well the operations and workings carried on as also all vein-faults and other disturbances observed and encountered in such operations and workings *and all such plans and sections shall be amended and filled up by and from actual surveys to be made for that purpose at the end of every period of twelve months* and the $\frac{\text{lessee}}{\text{lessees}}$ shall furnish free of charge to the Local Government true and correct copies of such plans and sections whenever thereunto required.

To provide weighing machine.

11. *The $\frac{\textit{lessee}}{\textit{lessees}}$ shall provide and at all times keep at or near the pit head or each of the pit heads at which the said minerals shall be brought to bank a properly constructed and efficient weighing machine and shall weigh or cause to be weighed thereon all the said minerals from time to time brought to bank sold exported [and converted into coke respectively] and shall at the close of each day cause the total weights ascertained by such means of the said minerals raised sold exported [and converted] during the previous twenty-four hours to be entered in the aforesaid books of account and will permit the Local Government at all times during the said terms to employ any person or persons to be*

present at the weighing of the said minerals as aforesaid and to keep accounts thereof and to check the accounts kept by the lessee/lessees.

To allow test of weighing machine.

12. *The* lessee/lessees *shall allow any person or persons appointed in that behalf by the Local Government at any time or times during the said term to examine and test every weighing machine to be provided and kept as aforesaid and the weights used therewith in order to ascertain whether the same respectively are correct and in good repair and order and if upon any such examination or testing any such weighing machine or weights shall be found incorrect or out of repair or order the Local Government may require that the same be adjusted, repaired and put in order by and at the expense of the* lessee/lessees *and if such requisition be not complied with within fourteen days after the same shall have been made the Local Government may cause such weighing machine or weights to be adjusted repaired and put in order and the expense of so doing shall be paid by the* lessee/lessees *to the Local Government on demand and if upon any such examination or testing as aforesaid any error shall be discovered in any weighing machine or weights to the prejudice of the Secretary of State such error shall be regarded as having existed for three calendar months previous to the discovery thereof or from the last occasion of so examining and testing the same weighing machine and weights in case such occasion shall be within such period of three months and the said rent and royalty shall be paid and accounted for accordingly.*

To pay compensation for injury to third parties.

13. The lessee/lessees shall make and pay reasonable satisfaction and compensation for all damage or injury to person or property which may be done by or on the part of the lessee/lessees in exercise of the liberties and powers granted by these presents and shall at all times save harmless and keep indemnified the Secretary of State from and against all suits claims and demands which may be brought or made by any person or persons in respect of any such damage or injury.

Not to obstruct working of other minerals.

14. The lessee/lessees will exercise the liberties and powers hereby granted in such a manner as to offer no unnecessary or reasonably avoidable obstruction or interruption to the development and working of any minerals not included in this lease and will at all times afford to the Secretary of State and to the holders of prospecting licences or mining leases in respect of any such minerals or any minerals within any lands adjacent to the said lands reasonable means of access and safe and convenient passage upon and across the said lands to such minerals for the purpose of getting working developing and carrying away the same.

Restrictions on assignment or transfer.

15. The lessee/lessees shall not assign this lease or transfer any interest hereunder, without the previous written sanction of the Local Government:

PROVIDED that in case of any such assignment or transfer as aforesaid (authorized or sanctioned by or under this provision) the instrument thereof shall within three calendar months from the date of its completion be produced to the Collector and the sum of Rs. 50 paid to the Collector as the fee for registration thereof in his office.

Not to be financed or controlled by any Trust Syndicate of Corporation.

16. The lessee/lessees shall not enter into or make any arrangement compact or understanding whereby the lessee/lessees will or may be directly or indirectly financed by or under which the lessee's/lessees' operations or undertakings will or may be carried on directly or indirectly by or for the benefit of or subject to the control of any Trust Syndicate Corporation firm or person unless with the written sanction given prior to such arrangement compact or understanding being entered into or made of the Local Government and any or every such arrangement compact or understanding as aforesaid (entered into or made with such sanction as aforesaid) shall only be entered into or made and shall always be subject to an express condition binding upon the other party or parties thereto that on the occasion of a state of emergency of which the Governor General of India in Council shall be the sole judge it shall be terminable if so required in writing by the Local Government and shall in the event of any such requisition being made be forthwith thereafter determined by the lessee/lessees accordingly.

To deliver up mines, etc., in good order.

17. The lessee/lessees will at the expiration or sooner determination of the said term deliver up to the Secretary of State all mines pits shafts inclines drifts levels waterways airways and other works [now existing or] hereafter to be sunk or made under the said lands (except such as may have been abandoned with the sanction of the Local Government or in an ordinary and fair course of working) and all [engines machinery plant buildings structures and other works and conveniences which at the commencement of the said term were upon or under the said lands and all] engines machinery plant and fixtures set up by the lessee/lessees below ground level which cannot be removed without causing injury to any mines or works under the said lands (except such of the same as may with the sanction of the Local Government have become disused) and all buildings and structures of brick or stone erected by the lessee/lessees above ground level in good repair order and condition and fit in all respects for further working of the said minerals.

To remain British in constitution.

18. (*a*) The $\frac{\text{lessee}}{\text{lessees}}$ shall at all times during the said term remain or be a British subject or subjects or a British Company or Corporation registered incorported or established in British India or the United Kingdom or some other part of His Majesty's dominions and of which at all times during the said term the Chairman or President or other person occupying that or any similar position (if any) and the Managing Director (if any) and a majority of the other Directors (if any) shall be a British subject or British subjects and the Managing Agents or Managing Agent Secretaries or Secretary (if any) shall be a firm of which every member is a British subject an individual who is a British subject or a Company in every respect answering the description and satisfying the conditions last hereinbefore contained and laid down as those to which the Company itself must as the $\frac{\text{lessee}}{\text{lessees}}$ conform.

(*b*) The Local General Manager and not less than per cent of the local staff employed by the $\frac{\text{lessee}}{\text{lessees}}$ shall at all times during the said term be a British subject or British subjects and neither the $\frac{\text{lessee}}{\text{lessees}}$ nor the said mines and minerals shall at any time during the said term be or become directly or indirectly controlled or managed by any person or persons who are not a British subject or subjects or a Company in every respect answering to the description and satisfying the conditions last hereinbefore mentioned.

19. The Lessee being a company or corporation shall report to the Local Government any alteration in its Memorandum or Articles of Association, or in its constitution within* after the same shall have been made and shall give two months' previous notice in writing to the Local Government of any intention or proposal to make any such alteration which might conceivably affect its British status or character and no such alteration shall be made unless the Local Government shall have previously consented thereto in writing PROVIDED ALWAYS that the consent of the Local Government shall not be refused to any such alteration as aforesaid in the Memorandum and Articles of Association or the constitution of the lessee unless in its opinion such alterations shall be contrary to the cardinal principle laid down by Government in respect of the said minerals, that is to say, that the lessee(s) shall be and remain a British subject or British subjects or a British Company under British control.

Right of pre-emption.

20. (*a*) The Secretary of State shall from time to time and at all times during the said term have the right (to be exercised by notice in writing to the $\frac{\text{lossee}}{\text{lessees}}$ under the hand

* Here insert suitable period within which report should be sent.

of any Secretary to Government) of pre-emption of the said minerals (and all products thereof) lying upon the said lands hereby demised or elsewhere under the control of the $\frac{\text{lessee}}{\text{lessees}}$ and the $\frac{\text{lessee}}{\text{lessees}}$ shall, with all possible expedition and so as to avoid demurrage on the vessel or vessels engaged to convey the same, deliver all minerals or products of minerals purchased by the Secretary of State under the power conferred by this provision in the quantities at the times in the manner and at the place of shipment or storage specified in the notice exercising the said right.

(*b*) Should the right of pre-emption conferred by this present provision be exercised and a vessel chartered to carry the minerals or products thereof procured on behalf of the Secretary of State hereunder be detained on demurrage at the port of loading, the $\frac{\text{lessee}}{\text{lessees}}$ shall pay the amount due for demurrage according to the terms of the charter party of such vessel unless the Secretary of State shall be satisfied that the delay is due to causes beyond the control of the $\frac{\text{lessee}}{\text{lessees}}$.

(*c*) The price to be paid for all minerals or products of minerals taken in pre-emption by the Secretary of State in exercise of the right hereby conferred shall be the fair market price for the time being to be determined in default of agreement by the Local Government under the provision hereinafter in clause 13 of part IX of this schedule contained PROVIDED THAT in order to assist in arriving at the said fair market price the $\frac{\text{lessee}}{\text{lessees}}$ shall if so required furnish to the Local Government for the confidential information of the Secretary of State particulars of the quantities, descriptions and prices of the said minerals or products thereof sold to other customers and of charters entered into for freight for carriage of the same and shall produce to such officer or officers as may be directed by the Local Government original or authenticated copies of contracts and charter parties entered into for the sale or freightage of such minerals or products.

(*d*) On the occasion of a state of emergency of which the Secretary of State shall be the sole judge and notice in writing under the hand of any Secretary to Government shall be conclusive evidence the $\frac{\text{lessee}}{\text{lessees}}$ shall on receiving such notice requiring $\frac{\text{him}}{\text{them}}$ so to do use $\frac{\text{his}}{\text{their}}$ utmost endeavours to increase the supply to or for the Secretary of State of the minerals or products thereof purchased by him as aforesaid to the extent specified in such notice.

Part VIII.—The covenants of the Secretary of State.

For quiet enjoyment.

1. *The* $\frac{\textit{lessee}}{\textit{lessees}}$ *paying the rents and royalties hereby reserved and observing and performing all the covenants and agreements herein contained and on the part of the* $\frac{\textit{lessee}}{\textit{lessees}}$ *to be observed and performed shall and may quietly hold and enjoy the rights and premises hereby demised for and during the term hereby granted without any lawful interruption from or by the Secretary of State or any person rightfully claiming under him.*

To renew.

2. *If the* $\frac{\textit{lessee}}{\textit{lessees}}$ *shall be desirous of taking a renewed lease of the premises hereby demised for the further term of years from the expiration of the said terms hereby granted and of such desire shall prior to the expiration of such last mentioned term give to the (*

) six calendar months' previous notice in writing and shall pay the rents and royalties hereby reserved and observe and perform the several covenants and agreements herein contained and on the part of the $\frac{\textit{lessee}}{\textit{lessees}}$ *to be observed and performed up to the expiration of the said term hereby granted the Secretary of State will upon the request and at the expense of the* $\frac{\textit{lessee}}{\textit{lessees}}$ *and upon his executing and delivering to the Secretary of State if required a counterpart thereof execute and deliver to the* $\frac{\textit{lessee}}{\textit{lessees}}$ *a renewed lease of the said premises for the further term of years at such rents not exceeding twice the rents hereby reserved and at such royalties as may be prescribed by the Governor-General in Council but otherwise upon the like terms and under and subject to the like covenants and agreements as are contained in these presents* (other than this present covenant)† [including this present covenant but varied so that no third renewal is claimable and so that during a second renewal the royalties payable shall be such as may be prescribed by the Governor-General in Council and the rents payable thereunder shall be such as may be fixed by the Local Government but such rents shall not exceed twice the rents reserved under the first renewal lease].*

Part IX.—General Provisions.

Power of distress.

1. If any rent or royalty hereby reserved shall be in arrear or unpaid for the space of two calendar months next after the day whereon the same ought to be paid then (whether the same shall have been formally demanded or not) and so often as the same shall happen the Local Government on behalf of the Secretary of State may enter into and upon the said lands and may distrain all or any of the minerals mineral ore movable engines machinery plant live and

* To be used in the case of minerals other than iron ore.

† To be used in the case of iron ore only.

dead stock and other movable property belonging to the $\frac{\text{lessee}}{\text{lessees}}$ which shall be found in or upon the same premises and may sell and dispose of the same and apply the proceeds thereof in or towards the satisfaction and payment of the rent or royalty which shall then be in arrear and all costs and expenses occasioned by the non-payment thereof or by such distress.

Power of re-entry.

2. If any rent or royalty hereby reserved shall be in arrear or unpaid for the space of six calendar months next after the day whereon the same ought to be paid (whether the same shall have been formally demanded or not) or if the $\frac{\text{lessee}}{\text{lessees}}$ shall fail or neglect to observe or perform any of the covenants and agreements contained in these presents and on the part of the $\frac{\text{lessee}}{\text{lessees}}$ to be observed and performed or in case it shall appear to the Local Government that its sanction to any such assignment transfer grant arrangement compact or understanding as mentioned in clauses 15 and 16 of the covenants by the $\frac{\text{lessee}}{\text{lessees}}$ hereinbefore in Part VII of these presents contained was improperly obtained or that any improper use of the rights or powers under any such arrangement compact or understanding as aforesaid of any party thereto has been made by or with the connivance of the $\frac{\text{lessee}}{\text{lessees}}$ or if the $\frac{\text{lessee}}{\text{lessees}}$ shall fail (unless exempted by the Local Government for good cause) during two consecutive years of the said term to get from the said lands so much of the said minerals as at the rates of royalty hereinbefore mentioned would produce royalties for those years equal in amount to the said certain half-yearly rent payable during that period then and in any such case it shall be lawful for the Local Government on behalf of the Secretary of State at any time thereafter and although advantage may not have been taken of some previous default of a like nature to re-enter into and upon the said premises or any part thereof in the name of the whole and thereupon this present lease and the said term and the liberties powers and privileges hereby granted shall absolutely cease and determine but without prejudice to any right or remedy of the Secretary of State in respect of any breach of any of the covenants and agreements contained in these presents or for the recovery of any rent or royalty remaining unpaid.

Penalty for breach of covenant.

3. If the $\frac{\text{lessee}}{\text{lessees}}$ shall at any time during the said term commit a breach of any covenant or agreement contained in these presents and on the part of the $\frac{\text{lessee}}{\text{lessees}}$ to be observed or performed it shall be lawful for the Local Government as

the consideration for the non-exercise of the power of re-entry contained in the last preceding clause hereof to receive from the $\frac{\text{lessee}}{\text{lessees}}$ such penalty for the breach not exceeding four times the amount of the said certain half-yearly rent as the Local Government may fix.

Power to lessee to remove property.

4. The $\frac{\text{lessee}}{\text{lessees}}$ (having first paid and discharged the rents and royalties payable by virtue of these presents) may at the expiration or sooner determination of the said term or within six calendar months thereafter (unless the lease shall be determined under clause 2 of this part and in that case at any time not less than three calendar months nor more than six calendar months after such determination) take down take up and remove for the benefit of the $\frac{\text{lessee}}{\text{lessees}}$ all or any engines machinery plant buildings structures tramways railways and other works erections and conveniences which may have been erected set up or placed by the $\frac{\text{lessee}}{\text{lessees}}$ in or upon the said lands and which the $\frac{\text{lessee is}}{\text{lessees are}}$ not bound to deliver up to the Secretary of State under clause 17 of Part VII of this schedule and the Secretary of State shall not desire to purchase under the provisions of clause 5 of this part and also all minerals and mineral ore won by the $\frac{\text{lessee}}{\text{lessees}}$ under the authority of these presents and then remaining in or upon the said lands making reasonable compensation for all damage done to the said lands by such removal.

Power to Secretary of State to purchase property.

5. If at the expiration or sooner determination of the said term the Secretary of State shall desire to purchase all or any of the engines machinery plant buildings structures tramways railways and other works erections and conveniences which may have been erected set up or placed by the $\frac{\textit{lessee}}{\textit{lessees}}$ *in or upon the said lands and which the* $\frac{\textit{lessee is}}{\textit{lessees are}}$ *not bound to deliver up under clause 17 of Part VII of this schedule and if such desire shall be signified by a notice in writing given to the* $\frac{\textit{lessee}}{\textit{lessees}}$ *by the Collector six calendar months before the expiration or sooner determination of the said term or if this lease shall be determined under clause 2 of this Part at any time within three calendar months after such determination then and in such case the articles and things specified in such notice shall not be removed by the* $\frac{\textit{lessee}}{\textit{lessees}}$ *but shall be purchased by the Secretary of State at a price equivalent to the cost of the same at the time of their erection upon the said lands after deducting from such cost a sum equal to per cent thereof for every year which shall have elapsed since that time.*

Forfeiture of property left for more than six months after determination of lease.

6. If at the expiration of six calendar months after the expiration or sooner determination of the said term there shall remain in or upon the said lands any engines machinery plant buildings structures tramways railways and other works erections and conveniences or minerals or mineral ores or other property which the $\frac{\text{lessee is}}{\text{lessees are}}$ entitled to remove from the said lands the same shall if not removed by the $\frac{\text{lessee}}{\text{lessees}}$ within one calendar month after notice in writing requiring their removal be given to the $\frac{\text{lessee}}{\text{lessees}}$ by the Collector be deemed to become the property of the Secretary of State and may be sold or disposed of for the benefit of the Secretary of State in such manner as he shall deem fit without liability to pay any compensation or to account to the $\frac{\text{lessee}}{\text{lessees}}$ in respect thereof.

Power to surrender.

7. The $\frac{\text{lessee}}{\text{lessees}}$ may at any time determine this lease by giving not less than twelve calendar months' notice in writing to the Collector and upon the expiration of such notice and provided the $\frac{\text{lessee}}{\text{lessees}}$ shall upon such expiration render and pay all rents royalties compensation for damage and other moneys which may then be due and payable under these presents to the Secretary of State or any other person or persons and shall deliver up these presents to the Collector then this present lease and the said term and the liberties powers and privileges hereby granted shall absolutely cease and determine but without prejudice to any right or remedy of the Secretary of State in respect of any breach of any of the covenants or agreements contained in these presents.

Destruction of mines or works.

8. If at any time during the continuance of this demise the said mines and works shall become destroyed or rendered substantially and permanently unfit for the purposes of this demise by fire tempest or flood or violence of any army or mob or other irresistible force these presents shall at the option of the $\frac{\text{lessee}}{\text{lessees}}$ be void provided that if the injury be occasioned by the wrongful act or default of the $\frac{\text{lessee}}{\text{lessees}}$ or the servants of the $\frac{\text{lessee}}{\text{lessees}}$ the $\frac{\text{lessee}}{\text{lessees}}$ shall not be entitled to the benefit of this provision. And provided also that if this lease shall become void for or by reason of any of the causes aforesaid it shall be without prejudice to the rights and remedies of the Secretary of State under or by virtue of these presents for the recovery of any rent or royalty which may then remain unpaid or in respect of any breach which may have been committed of any of the covenants herein contained on the part of the $\frac{\text{lessee}}{\text{lessees}}$.

Power to take possession in event of war or emergency.

9. In the event of war or on the occasion of a state of emergency of which the Secretary of State shall be the sole judge and the notice next hereinafter mentioned shall be conclusive evidence the Secretary of State may forthwith after notice in writing to the lessee/lessees under the hand of any Secretary to Government of his intention so to do take possession or assume control of the works plant machinery and premises of the lessee/lessees at or in connexion with the said mines and the lessee/lessees shall conform and obey all directions given by or on behalf of the Secretary of State regarding the use or employment of such works plant and premises PROVIDED THAT fair compensation which shall be determined in default of agreement by the Local Government under the provision hereinafter in clause 13 of this part contained shall be paid to the lessee/lessees for all loss or damage sustained by him/them by reason or in consequence of the exercise of the powers conferred by this clause and PROVIDED ALSO that the exercise of such powers shall not determine the said term hereby granted or affect the terms and provisions of these presents further than may be necessary to give effect to the provisions of this clause.

Lessee's rights in respect of other minerals.

10. If any minerals not included in this lease shall during the said term be discovered by the lessee/lessees within the said lands and if no mining lease shall then be held by any other person in respect of the same the lessee/lessees shall during the twelve calendar months next succeeding the discovery thereof have the option of taking a mining lease in accordance with the rules prescribed by the Governor General of India in Council for the grant of prospecting licences and mining leases in respect of such minerals over so much of the said lands as the lessee/lessees may desire and during such period of twelve calendar months the lessee/lessees shall be entitled to win work and carry away any of the minerals so discovered on payment therefor to the Secretary of State of such royalty not being less than 20 per cent of the value of such minerals as the Local Government may prescribe or in case of precious stones shall have the right during the said period of twelve calendar months to the first offer of such mining lease in respect of such precious stones as the Governor General in Council may think fit to grant.

Service of notices on lessee.

11. Every notice by these presents required or authorized to be given to the lessee/lessees may be given to such person resident on the said lands as the lessee/lessees may appoint for the

purpose of receiving such notices or if there shall be no such person then to any person in the employ of the $\frac{\text{lessee}}{\text{lessees}}$ who may be found upon the said lands or if no such person be found then the same may be left at the said office of the $\frac{\text{lessee}}{\text{lessees}}$ upon the said lands or affixed in a conspicuous position upon some building or erection in the occupation of the $\frac{\text{lessee}}{\text{lessees}}$ upon the said lands.

Leases of natural petroleum already granted to lessee.

11-*A* * All leases of natural petroleum heretofore granted by the Secretary of State to the $\frac{\text{lessee}}{\text{lessees}}$ shall be deemed to contain the covenants and provisions contained in clauses 15 and 16 of Part VII of this schedule and in clause 11-B of this Part.

Power to Secretary of State to impose conditions to secure the refinement in British Indian territory of all natural petroleum won.

11-*B** Notwithstanding anything herein contained it shall be lawful for the Secretary of State by notification by the Local Government or by notice in writing under the hand of a Secretary to the Local Government from time to time to impose upon the lessee vary and rescind such restrictions and conditions as to the Secretary of State shall appear necessary or desirable for the purpose of securing the refinement in British Indian territory of all natural petroleum which may be won from the said lands.

Interpretation of terms "Collector" and "Local Government"

12. In these presents the expression "the Collector" shall mean the Revenue Officer in charge of the district within which the said lands are situate and the expression "the Local Government" shall mean the Local Government or Chief Commissioner as the case may be within whose administrative jurisdiction the said lands are situate or any delegate of such Local Government or Chief Commissioner.

13. If and whenever any question or dispute shall arise in regard to the construction meaning, or effect of these presents or any clause or thing herein contained or in regard to the manner or sufficiency of the observance or performance by the $\frac{\text{lessee}}{\text{lessees}}$ of any covenant or agreement herein contained or in regard to the mode of working of the said minerals or the maintenance or condition of any works in or upon the said lands or in regard to any valuation to be made under these presents or in regard to the amount or payment of any rent royalty compensation or other money payable by the $\frac{\text{lessee}}{\text{lessees}}$ or in regard to any other matter or thing relating to or arising out of these presents such question or dispute

* To be used in the case of natural petroleum (including natural gas) only.

shall be determined by the Local Government whose decision thereon shall be final and binding on the parties hereto

Signed by—

[name and designation]

for and on behalf of the

acting in the premises for and on behalf of the

Secretary of State for India in Council in the

presence of

(1) Signed by the abovenamed

(by $\frac{\text{his}}{\text{their}}$ attorney

in the presence of

(1) This clause is to be used where the lease is granted to one or more individuals (the name of the constituted attorney being filled in if the lessee or lessees do not sign personally).

(2) Signed in the name and on behalf of the abovenamed

by

director of the said Company in the presence of

(2) This clause is to be used where the lease is granted to a registered company and if the signature is by an agent or attorney the appropriate designation should be inserted in place of the word "director."

(3) Signed in the name and on behalf of the abovenamed

by their authorized agent

in the presence of

(3) This clause is to be used where the lease is granted to an unincorporated syndicate.

(4) Signed by the abovenamed

(by their $\frac{\text{attorney}}{\text{agent}}$

in the presence of

(4) This clause is to be used where the lease is granted to a private firm (the name of the attorney or agent being filled in if the signature is not by a partner in the firm).

APPENDIX X.

[See Rule 50 (vii) in Chapter VI.]

Form of agreement for use in connexion with the transfer of a lease.

AN AGREEMENT dated and made BETWEEN THE SECRETARY OF STATE FOR INDIA IN COUNCIL (hereinafter called the Secretary of State which expression shall be deemed to include his successors in office and assigns) of the one part and [hereinafter called the Transferee(s) which expression shall where the context so admits or implies be deemed to include $\frac{\text{his}}{\text{their}}$ (respective) heirs executors administrators and assigns] of the other part. WHEREAS by virtue of an Indenture of Lease (hereinafter called the lease) dated and made between the Secretary of State and (A)
(B) [and now vested by transfer in hereinafter called the Lessee(s)] the Lessee(s) $\frac{\text{is}}{\text{are}}$ entitled to search for and work the mines and minerals therein mentioned for the term and subject to the payment of the rent and royalties and the observance and performance of the Lessees covenants and conditions in the Lease reserved and contained including a covenant not to assign the Lease or any interest thereunder without the previous sanction of the Local Government AND WHEREAS the Lessee(s) $\frac{\text{is}}{\text{are}}$ desirous of transferring and assigning the Lease to the Transferee(s) and the Local Government have at the request of the Lessee(s) granted sanction to such transfer and assignment upon condition of the Transferee(s) entering into an agreement in and containing the terms and conditions hereinafter set forth.

(A) Name of original Lessee.
(B) If there has been no previous transfer strike out the words in brackets here. If there has been a previous transfer fill in the name of the holder in the blank within the brackets.

NOW IT IS HEREBY AGREED AND DECLARED by the Transferee(s) with and to the Secretary of State that from and after the transfer and assignment of the Lease by the Lessee(s) to the Transferee(s) the Transferee(s) shall be bound by and liable to perform and observe and conform and be subject respectively to all the provisions and conditions of all the covenants and stipulations on the part of the Lessee(s) and conditions in the Lease contained in the same manner in all respects as if the Lease had been granted to the Transferee(s) as the Lessee(s) thereunder and $\frac{\text{he}}{\text{they}}$ had originally executed it as such and the Transferee(s) hereby undertake(s) and agree(s) with the Secretary of State to perform and observe the same covenants stipulations and conditions in all respects accordingly.

And further that the Secretary of State shall have power and liberty to retain the deposit made by the transferee(s) on applying for this transfer as security for and on account of the performance by the transferee(s) of the terms of this agreement and any claim for compensation which may be made by any person or persons against the transferee(s) and the Secretary of State in respect of any damage or injury done by the transferee(s) in exercise of any of the powers conferred on $\frac{\text{him}}{\text{them}}$ by the lease and in or towards payment of any damage. Costs and expenses which may become payable as a result of or in connexion with any suits or proceedings which may be instituted against the Secretary of State in respect of any such damage or injury and also for the restoration by the transferee(s) to its natural original condition of the surface of all lands which shall be occupied by the transferee(s) and for the cost of fencing or filling in of abandoned pits made by the transferee(s) in the said land during $\frac{\text{his}}{\text{their}}$ tenancy thereof.

As WITNESS the hands of the parties.

APPENDIX XI.

[See Note to Rule 5 in Chapter VI.]

Form of lease (minor minerals) to local boards.

THIS INDENTURE made the day of one thousand nine hundred and between the RIGHT HONOURABLE THE SECRETARY OF STATE FOR INDIA IN COUNCIL hereinafter called "the lessor" (which term shall be taken to mean and include where the context admits the said Secretary of State and his successors and assigns of the one part) and the PRESIDENT, DISTRICT BOARD, , hereinafter called the "lessee" (which term shall be taken to mean and include where the context admits the said President, District Board, , his executors administrators and representatives and assigns of the other part).

WHEREAS the lessee has applied to the Government of Madras for a lease of lands in the said district for the purpose of digging and excavating metal and gravel in them and whereas the Government of Madras acting for and on behalf of the lessor have agreed to grant to the lessee and the lessee has agreed to accept a lease of the premises hereinafter demised upon the terms and conditions hereinafter contained. NOW THIS INDENTURE WITNESSETH that in consideration of the covenants and agreements on the part of the lessee hereinafter contained the lessor doth hereby demise unto the lessee all these several pieces or parcels of land situate in the village of in the sub-registration district of and the registration district of and being respectively more particularly mentioned and described in the schedule hereunder written and delineated in the plans hereto appended to have and to hold the said lands unto the lessee for the term of years beginning from the day of one thousand nine hundred and ending on the day of one thousand nine hundred yielding and paying therefor during the said term the yearly assessment of Rs. and cesses as may from time to time be imposed by the Government of Madras, such rent and cess to be paid on the day of in each year the said rent and cesses to be paid clear of all deductions and subject to the lessee's covenants and other conditions and payments hereinafter appearing and the lessee doth hereby covenant with the lessor—

(1) That the lessee will pay during the said term the said rent and cesses at the time and in the manner abovesaid.

(2) That the lands shall be used only for quarrying and excavating metal and gravel for the legitimate needs of the District Board.

(3) That the lessee will at all times during the said term keep the premises in good and substantial repair and the same in good and substantial repair deliver up to the lessor at the expiration or sooner determination of the said term subject only to such damage as may have been caused to the premises by the quarrying abovesaid conducted in a fair and workmanlike manner.

(4) That the lessor's agents, servants and workmen shall be at liberty at all reasonable times during the said term to inspect and examine the works carried on by the lessee under the liberties hereinbefore granted and the lessee shall and will from time to time and at all times during the said term hereby granted conform to and observe all orders and regulations which the lessor or his authorized agent as the result of such inspection may from time to time see fit to impose to keep the premises in good and substantial repair or in the interests of public health and safety.

(5) That if the lands should be used for any purpose other than the quarrying above said or if they are not used or at any time cease to be used for the said purpose, the lessor shall be at liberty to terminate the lease without notice.

(6) That the lease may be terminated in respect of the whole or any part of the premises at three months' notice on either side.

(7) That on such determination the lessee shall have no right to compensation of any kind.

(8) That if there should be any breach or non-observance of the lessee's covenants hereinbefore contained it shall be lawful for the lessor at any time thereafter to enter upon the said premises and repossess and enjoy the same as in his former estate. And the lessor doth hereby covenant with the lessee that save as is hereinbefore provided the lessee performing and observing the several covenants hereinbefore contained may peaceably hold and enjoy the said premises during the said term without any interruption by the lessor or any person lawfully claiming through him.

IN WITNESS whereof (Collector of   ) by order and direction of His Excellency the Governor in Council for and on behalf of the lessor and the lessee have

hereunto set their respective hands and seals the day and year first above written.

Schedule.

Name of taluk.	Name of village.	Survey field number	Extent.	Assessment.	Boundaries: North, south, west and east.
			ACS.	RS.	

B.P. 16, dated 11th January 1915.

APPENDIX XII.

[See Note to Rule 5 in Chapter VI.]

Form of lease (minor minerals) to private persons.

THIS INDENTURE made the day of 19 between the Right Hon'ble the SECRETARY OF STATE FOR INDIA IN COUNCIL (hereinafter called the 'lessor' which expression where the context so admits shall include his successors in office and assigns) of the one part and (hereinafter called the 'lessee' which expression where the context so admits shall include his heirs executors administrators representatives and assigns) of the other part WHEREAS the lessee has applied to the Government of Madras for a lease of lands in the district for the purpose of mining for and has deposited with the Collector of the sum of Rs. as security for the due and faithful performance by the lessee of the covenants and conditions on the part of the lessee hereinafter contained AND WHEREAS the Government of Madras acting for and on behalf of the lessor have agreed to grant the lessee a lease of the lands and premises hereinafter described and demised for the term and at the rent and royalties and subject to the statutory rules published by the Government of India in their Finance and Commerce Department Resolution of the 20th February 1894, No. 933 and subject also to the covenants and conditions hereinafter contained NOW THIS INDENTURE WITNESSETH as follows:—

The lessor hereby demises to the lessee ALL those several pieces or parcels of land situate in the village of in the sub-registration district of and registration district of in the Presidency of Madras being more particularly described in the schedule hereunder written and delineated in the map or plan hereunto annexed and therein coloured.

2. There are included in the said demise and for the purposes thereof the liberties following:—

(1) To get from the said demised pieces of land. . .

(2) For the purpose aforesaid to use any water in or under the said demised pieces of land and to divert the same and to make or construct any watercourses or ponds so however that nothing shall be done in the exercise of this authority which shall interfere with the rights of any adjoining owners or tenants of the lessor in respect of such water.

(3) Generally to do all things which shall be convenient or necessary for getting the and materials hereby authorised to be got and for removing and disposing thereof as aforesaid.

3. There are excepted and reserved to the lessor out of this demise—

(1) All earth minerals and other substances not hereinbefore expressly authorised to be got from the demised lands by the lessee.

(2) Liberty for the lessor or other persons authorised by him to search for work get carry away and dispose of the excepted minerals and other substances and for such purposes to have the right of ingress egress and regress over the said demised pieces of land and to make erect and use all pits machinery buildings roads and other necessary works and conveniences PROVIDED that the rights hereby reserved shall be exercised in such a way as to cause as little obstruction as possible to the lessee in the use and enjoyment of its rights hereunder and that reasonable compensation for damages caused by any such obstruction shall be paid to the lessee the amount thereof in case of difference to be settled by arbitration as hereinafter provided.

4. The said premises shall be held by the lessee for the term of years from the day of 19 to the day of 19 determinable as hereinafter provided.

5. The lessee shall pay during the said term the following rent and royalty and also all cesses which may from time to time be imposed by the Government:—

(1) The fixed yearly rent of Rs. in respect of the said demised pieces of land.

(2) A royalty of for every removed from the said demised pieces of land.

6. It is hereby agreed and declared that in regard to the said rent and royalty the following rules shall be observed:—

(1) The said rent of Rs. shall be paid without any deduction on the day of in every year in advance.

(2) The said royalty of per shall be paid before the same is removed from the said demised pieces of land.

7. The lessee hereby covenants with the lessor as follows:—

(1) To pay the reserved rent and royalty on the days and in manner aforesaid.

(2) To bear pay and discharge all existing and future rates taxes assessments duties impositions outgoings and burdens whatsoever imposed or charged upon the demised premises or the produce thereof or the rent and royalty hereby reserved

or upon the owner or occupier in respect thereof or payable by either in respect thereof except such charges or impositions as the lessee is or may hereafter be by law exempted from.

(3) Before digging or opening any part of the said demised pieces of land for carefully to remove the surface soil to a depth of at least feet and lay aside and store the same in some convenient part of the said demised pieces of land until the land from which it has been removed is again restored to a state fit for cultivation as hereinafter provided.

(4) To effectually fence off the said demised pieces of land from the adjoining lands and to keep the fences in good repair and condition.

(5) Not to assign underlet or part with the possession of the demised premises or any part thereof without the written consent of the lessor first obtained.

(6) After working out any part of the said demised pieces of land forthwith to level the same and replace the surface soil thereof and slope the edges where necessary so as to afford convenient connexion with the adjoining land.

(7) That the lessee shall keep correct accounts in such form as the Collector shall from time to time require and direct showing the quantities and other particulars of the said mineral obtained by the lessee from the said lands and also the number of persons employed in carrying on the said mining operations therein and shall from time to time when so directed by the Collector prepare and maintain complete and correct plans of all mines and workings in the said lands and shall allow any officer thereunto authorised by the Government of Madras from time to time and at any time to examine such accounts and any such plans and shall when so required supply and furnish to the Government of Madras all such information and returns regarding all or any of the matters aforesaid as the said Government shall from time to time require and direct.

(8) That the lessor's agents servants and workmen shall be at liberty at all reasonable times during the said term to inspect and examine the works carried on by the lessee under the liberties hereinbefore granted and the lessee shall and will from time to time and at all times during the said term hereby granted conform to and observe all orders and regulations which the lessor or his authorised agent as the result of such inspection may from time to time see fit to impose to keep the premises in good and substantial repair order and condition or in the interests of public health and safety.

(9) That the lessee shall not without the express sanction in writing of the said Collector cut down or injure any timber or trees on the said lands but he may clear away brushwood or undergrowth which interferes with any operations authorised by these presents.

(10) That if the lands shall be used for any purpose other than mining for   or if they are not used or at any time cease to be used for the said purpose the lessor shall be at liberty to terminate the lease without notice.

(11) That this lease may be terminated in respect of the whole or any part of the premises by six months' notice in writing on either side.

(12) That on such determination the lessee shall have no right to compensation of any kind.

(13) That the rents and royalty payable under these presents shall be recoverable under the provisions of Madras Act II of 1864 or any subsisting statutory modification thereof.

(14) At the determination of the tenancy to deliver up the demised premises in such condition as shall be in accordance with the provisions of these presents save that the lessee shall if so required by the lessor restore in manner provided by the foregoing covenant in that behalf the surface of any part of the land which has been occupied by the lessee for the purpose of the works hereby authorised and has not been so restored.

8. The lessor hereby covenants with the lessee as follows:—

(1) That the lessee paying the rent and royalty hereby reserved and observing and performing the several covenants and stipulations herein on his part contained shall peaceably hold and enjoy the premises liberties and powers hereby demised and granted during the said term without any interruption by the lessor or any person rightfully claiming under or in trust for him.

9. It is hereby expressly agreed as follows:—

(1) If any part of the rent and royalty hereby reserved shall be unpaid for 30 days after becoming payable (whether formally demanded or not) or if the lessee while the demised premises or any part thereof remain vested in him shall become insolvent or if any covenant on the lessee's part herein contained shall not be performed or observed then and in any of the said cases it shall be lawful for the lessor at any time thereafter to declare the whole or any part of the said security deposit of Rs.   to be forfeited and also to re-enter upon the demised premises or any part thereof in the name of the whole and thereupon this demise shall absolutely determine but without prejudice

to the right of action of the lessor in respect of any breach or non-observance of the lessee's covenants herein contained.

(2) At the determination of the tenancy the lessee shall be at liberty to remove carry away and dispose of all the stock of ready for delivery and all engines machinery and all plant articles and things whatsoever (not being building of brick or stone) the lessee first paying any rent and royalty and other sums which may be due and performing and observing the covenants on his part hereinbefore reserved and contained and also making good any damage done by such removal but any buildings which shall be erected on the said demised piece of land by the lessee and left thereon at the determination of the tenancy shall be the absolute property of the lessor who shall not pay any price for the same.

(3) If the lessee shall have paid the rent and royalty and duly observed and performed the covenants and conditions on his part herein contained the said deposit of Rs. shall be returned to him at the expiration of the said term of years.

(4) If any question difference or dispute shall arise between the parties hereto or any person or persons claiming under them respectively concerning the rent and royalty hereby reserved or touching the construction of any clause herein contained or the rights duties or liabilities of the parties hereunder or in any other way touching or arising out of these presents the same shall be referred to the Board of Revenue whose decision thereon shall be final and binding on the parties thereto.

IN WITNESS whereof Collector of by order and direction of His Excellency the Governor of Fort St. George in Council acting for and on behalf of the lessor and the lessee have hereunto set their hands and seals the day and year first above written.

The schedule above referred to.

Name of taluk.	Name of village.	Survey field number.	Extent.	Assessment.	Boundaries: North, south, west or east

Signed sealed and delivered by the abovenamed in the presence of }

Signed sealed and delivered by the abovenamed in the presence of }

APPENDIX XIII.

[See Note to Rule 29 in Chapter VI.]

Statement of applications for prospecting licences and for mining leases disposed of during the year 19 .

Serial number.	Name of district and tahsil or taluk.	Name of applicant.	Minerals.	Nature of grant, i.e., mining lease or prospecting licence.	Area.	If granted.					If refused.	If withdrawn.
						Date of commencement of the lease or licence.	Duration of the licence or lease.	Rate of			A brief statement of the reasons for the refusal.	Date of withdrawal.
								Dead-rent per annum.	Fee or surface-rent per acre per annum.	Royalty per annum.		

INSTRUCTIONS.

1. Entries should be arranged in order of date of application.

2. The numbers in column (1) should run consecutively throughout the statement

3. In column (5) the letters P.L. and M.L. may be used to indicate prospecting licence and mining lease respectively.

G.O. 724, Rev , dated 8th August 1905.
B P. 181, dated 17th August 1905.
G.O. 10, Dev., dated 3rd January 1924.
B.P. 6, dated 31st January 1924.

APPENDIX XIV.

[See Rule 10 in Chapter V and Rule 1 in Chapter VII.]

Schedule showing the scale of values to be adopted for the purpose of calculating the royalty leviable on every pound of mica removed from the premises of a mine.

Class	Stained mica. RS	A.	P.	Clear mica. RS.	A.	P.
I. 4 square inches and under	0	4	0	0	5	0
II. Above 4 square inches and not more than 8 square inches	0	6	0	0	11	0
III. Above 8 square inches and not more than 16 square inches	0	15	0	3	8	0
IV. Above 16 square inches and not more than 32 square inches	2	4	0	6	2	0
V. Above 32 square inches and not more than 48 square inches	4	8	0	8	12	0
VI. Above 48 square inches and not more than 64 square inches	6	12	0	12	4	0
VII. Above 64 square inches and not more than 80 square inches	9	0	0	15	12	0
VIII. Above 80 square inches and not more than 96 square inches	11	4	0	19	4	0
IX. Above 96 square inches and not more than 112 square inches	13	8	0	22	12	0

and so on.

Flimsy mica—8 annas per pound, irrespective of size and quality.

Scrap and waste mica which cannot be used as mica—Rs. 5 per ton, irrespective of size and quality.

Note.—The size of plates shall be calculated for assessment according to the greatest rectangular area the slabs will yield.

APPENDIX XV

[See Rule (*b*) in Chapter VII (*b*).]

Form of shipper's certificate.

Statement of proceeds realized by sale of mica consigned from mine on 19 , and shipped by on 19 .

Name of lessee.	Particulars of mica consigned.									
	Number of cases.	Marks.	Weight.		Schedule value.			Royalty paid at 5 per cent.		
(1)	(2)	(3)	(4)		(5)			(6)		
			LB	OZ.	RS.	A.	P.	RS.	A.	P.

Name of lessees.	Particulars of sale.					Deduct.											
	Weight		Price realized at sale as per broker's certificates.			Freight.			Insurance at home.			Other home charges.			Total.		
	(7)		(8)			(9)			(10)			(11)			(12)		
	LB.	OZ.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.

Name of lessee.	Net sterling proceeds.			Rupee equivalent at Rs. 15* per £.			Deduct local charges.											
							Railway fare.			Shipping charges.			Packing charges.			Insurance at Madras.		
	(13)			(14)			(15)			(16)			(17)			(18)		
	£	s.	d.	RS.	A.	P.	RS.	A.	P.	RS.	A.	P.	RS.	A.	P.	RS.	A.	P.

* This is put in as the standard of conversion is now fixed.

Name of lessee.	Deduct local charges—*contd.*									Net rupee proceeds.			Royalty due at 5 per cent.			Excess royalty to be refunded. Difference of columns (6) and (23).		
	Cart-hire from mine to railway.			Shipper's commission.			Total local charges.											
	(19)			(20)			(21)			(22)			(23)			(24)		
	RS.	A.	P.	RS.	A.	P.	RS.	A.	P.	RS.	A.	P.	RS.	A.	P.	RS.	A.	P.

APPENDIX XVI.

[See Rule 7 in Chapter VII (*b*).]

Standard form of mining lease for mica.

THIS INDENTURE made this day of 19 BETWEEN THE SECRETARY OF STATE FOR INDIA IN COUNCIL hereinafter referred to as "the Secretary of State" (which expression shall, where the context so admits be deemed to include his successors in office and assigns) of the one part

(1)—(1). This wording is to be used where the lease is granted to one individual.

and (1) [name of person]
of [address and occupation]
hereinafter referred to as "the lessee" (which expression shall where the context so admits be deemed to include his heirs executors administrators representatives and permitted assigns (1)

(2)—(2). This wording is to be used where the lease is granted to more than one individual.

and (2) [name of person]
of [address and occupation]
and [name of person]
of [address and occupation]
and [name of person]
of [address and occupation]
hereinafter referred to as "the lessees" (which expression shall where the context so admits be deemed to include their respective heirs executors administrators and representatives and their permitted assigns) (2)

(3)—(3). This wording is to be used where the lease is granted to a registered company.

and (3) [name of company] Limited incorporated in [country] and having its registered office at [address]
hereinafter referred to as "the lessee" (which expression shall where the context so admits be deemed to include its permitted assigns) (3)

(4)—(4). This wording is to be used where the lease is granted to an unincorporated syndicate.

and (4) the unincorporated body called [name of syndicate] having their principal place of business at [address] hereinafter referred to as "the lessees" (which expression shall where the context so admits be deemed to mean and include the persons or corporations who for the time being may be members of and the permitted assigns of [name of syndicate]) (4)

(5)—(5). This wording is to be used where the lease is granted to a firm.

and (5) the firm of [name of firm]
having their principal place of business at [address] hereinafter referred to as "the lessees" (which expression shall where the context so admits be deemed to mean and include the persons who for the time being may be members of and the permitted assigns of [name of firm]) (5) of the other part

WITNESSETH that in consideration of the rents and royalties covenants and agreements by and in these presents and the schedule hereunder written reserved and contained and on the part of the $\frac{\text{lessee}}{\text{lessees}}$ to be paid observed and performed the Secretary of State hereby grants and demises unto the $\frac{\text{lessee}}{\text{lessees}}$ *all those* the mines beds veins and seams of (hereinafter and in the said schedule referred to as "the said minerals") situate lying and being in or under the lands which are referred to in Part I of the said schedule *together* with the liberties powers and privileges to be exercised or enjoyed in connexion therewith which are mentioned in Part II of the said schedule *subject* to the restrictions and conditions as to the exercise and enjoyment of such liberties powers and privileges which are mentioned in Part III of the said schedule *except* and reserving out of this demise unto the Secretary of State the liberties powers and privileges mentioned in Part IV of the said schedule *to hold* the premises hereby granted and demised unto the $\frac{\text{lessee}}{\text{lessees}}$ from the day of 19 , for the term of years thence next ensuing *yielding* and paying therefor unto the Secretary of State the several rents and royalties mentioned in Part V of the said schedule at the respective times therein specified subject to the provisions contained in Part VI of the said schedule AND the $\frac{\text{lessee}}{\text{lessees}}$ hereby $\frac{\text{covenants}}{\text{covenant}}$ with the Secretary of State as in Part VII of the said schedule is expressed AND the Secretary of State hereby covenants with the $\frac{\text{lessee}}{\text{lessees}}$ as in Part VIII of the said schedule is expressed AND it is hereby mutually agreed between the parties hereto as in Part IX of the said schedule is expressed

IN WITNESS whereof these presents have been executed in manner hereunder appearing the day and year first above written.

The schedule above referred to—

Part I.—The area of this lease.

All that tract of land situate at

in (Pargana) in

the Registration District of

Sub-District and thana Description of area

bearing Cadastral Survey Nos.

containing an area of

or thereabouts delineated on the plan hereto annexed and thereon coloured

and bounded as follows:

on the north by
on the south by
on the east by
and on the west by

Part II.—Liberties, powers and privileges to be exercised or enjoyed by the $\frac{\text{lessee}}{\text{lessees}}$ subject to the restrictions and conditions in Part III.

Liberty to work mines.

1. Liberty and power to enter upon the lands referred to in Part I (hereinafter referred to as " the said lands") and to search for win work get raise [convert] and carry away the said minerals.

Liberty to sink pits, etc. [and use existing pits, etc.]

2. *Liberty and power for or in connexion with any of the purposes mentioned in this part to sink drive make maintain and use in the said lands any pits shafts inclines drifts levels waterways airways and other works [and to use maintain deepen or extend any existing works of the like nature in the said lands].*

Liberty to make works [and use existing works]

3. *Liberty and power for or in connexion with any of the purposes mentioned in this part to erect construct maintain and use on or under the said lands any engines machinery plant dressing floors furnaces brick-kilns lime-kilns workshops storehouse bungalows godowns sheds and other buildings and other works and conveniences [and to use and maintain any existing works and conveniences of the like nature on or under the said lands].*

Liberty to make roads and ways [and use existing roads and ways.]

4. *Liberty and power for or in connexion with any of the purposes mentioned in this part to make any tramways railways roads and other ways in or over the said lands and to use maintain and go and repass with or without horses cattle wagons or locomotives over the same [or any existing tramways railways roads and other ways in or over the said lands].*

Liberty to get building and road materials make bricks, etc.

5. *Liberty and power for or in connexion with any of the purposes mentioned in this part to quarry and get stone sand gravel and other building and road materials and clay and to use and employ the same and to manufacture such clay into bricks or tiles and to use such bricks or tiles but not to sell any such materials bricks or tiles.*

Liberty to use water.

6. *Liberty and power for or in connexion with any of the purposes mentioned in this Part to appropriate and use any streams watercourses springs or water in or upon the said lands and to divert stop up or dam any such stream or watercourse and collect or impound any water and to make construct and*

maintain any watercourses culverts drains and reservoirs but not so as to deprive any cultivated lands villages buildings or watering places for livestock of a reasonable supply of water as before accustomed nor in any way to foul or pollute any streams or springs and so also that no mining operations be commenced or carried on within a distance of 70 yards of any irrigation source or channel without the consent in writing of the Collector for the time being of
and upon such terms as he may decide.

7. *Liberty and power to enter upon and use a sufficient part of the surface of the said lands adjacent to any pits or works for the purpose of stacking heaping or depositing thereon any produce of the mines or works carried on and any earth materials and substances dug or raised under the liberties and powers mentioned in this Part.* **Liberty to use land for stacking.**

8. *Liberty and power in and upon the said land to dress prepare and make merchantable any mica that may be obtained therefrom whether for purposes of sale or otherwise.* **Liberty to prepare and make merchantable mica gotten.**

9. *Liberty and power for or in connexion with any of the purposes mentioned in this Part to fell cut and use any timber or trees now standing or which hereafter may be standing upon the reserved forest land included within the said lands provided that not more than acres of such reserved forest land shall be cleared in any one year nor the same place oftener than once in every year and not more than trees shall be felled in any one year and provided also that the exercise of the liberty and power expressed in this clause shall be subject to the observance of the terms and conditions following that is to say.* **Liberty to take timber from reserved forest.**

Part III.—Restrictions and conditions as to the exercise of the liberties powers and privileges in Part II.

1. *No building or thing shall be erected set up or placed and no surface operations shall be carried on in or upon any public pleasure ground burning or burying ground or place held sacred by any class of persons or any house or village-site public road or other place which the Local Government within the territories administered by which the said lands are situate (hereinafter called the Local Government) may determine on public grounds to bring within this restriction nor in such a manner as to injure or prejudicially affect any buildings works property or rights of other persons and no land shall be used for surface operations which is already occupied by persons other than the Secretary of State for works or purposes not included in this lease if any other land not so occupied is suitable and available for such surface operations.* **No building, etc., upon certain places.**

No surface operations upon land not already used therefor unless after notice and unless no objections thereto.

2. *Before using for surface operations any land which has not already been used for such operations the* $\frac{\textit{lessee}}{\textit{lessees}}$ *shall give to the* *for the time being as the agent in that behalf of the Secretary of State two calendar months' previous notice in writing specifying the name or other designation the situation and the quantity of the land proposed to be so used and the purpose for which the same is required and such land shall not be so used if the said agent shall within two calendar months after the receipt by him of such notice state some objection to such use unless the objection or objections so stated shall on reference to the Local Government be annulled or waived by such Government.*

(*Except as provided in Part I*) no timber to be cut *without sanction of Collector.*

3. *Save as provided in clause* 9 *of Part II of this Schedule* the $\frac{\text{lessee}}{\text{lessees}}$ shall not *without the express sanction of the Collector* cut down or injure *any timber or* trees on the said lands *but may without such sanction clear away any brushwood or undergrowth which interferes with any operations authorized by these presents.*

No reserved forest to be entered upon without sanction of District Forest Officer.

Notwithstanding anything in this Schedule contained the $\frac{\text{lessee}}{\text{lessees}}$ shall not enter upon any reserved forest included in the said lands without thirty days' previous notice in writing to the District Forest Officer nor without obtaining the sanction in writing of that officer nor otherwise than in accordance with such conditions as that officer may in his absolute discretion prescribe.

No workings within 50 yards of public works, etc., except with previous permission.

4. No mining operations or workings shall be carried on or permitted to be carried on by the $\frac{\text{lessee}}{\text{lessees}}$ in or under the said lands at or to any point within a distance of 50 yards from any railway reservoir canal or other public works or any buildings or inhabited site shown on the plan hereto annexed except with the previous permission in writing of the Governor-General of India in Council or some officer authorized by him in that behalf or otherwise than in accordance with such instructions restrictions and conditions either general or special which may be attached to such permission. The said distance of 50 yards shall be measured in the case of a railway reservoir or canal horizontally from the outer toe of the bank or the outer edge of the cutting as the case may be and in the case of building horizontally from the plinth thereof, and for the purpose of this clause the expression "railway" shall have the same meaning as it is defined to have in the Railways Act, 1890, by section 3 (4) of that Act.

5. The lessee shall not stop or obstruct or in any manner interfere with the use by the public or by any person or persons entitled to the use thereof of any roads, ways, paths and

rights of way in on or over the said land, *provided that* when any blasting operations are in progress in any place so near to any road, way or foot-path as to cause danger to persons using such road, way or foot-path, the lessee shall post men to prevent any person coming within dangerous proximity to such blasting operations.

Part IV.—Liberties powers and privileges reserved to the Secretary of State.

Liberty to work other minerals.

1. Liberty and power for the Secretary of State or any lessee or person authorized by him in that behalf to enter into and upon the said lands and to search for win work dig get raise (convert) and carry away any minerals other than the said minerals and any other substances and for those purposes to sink drive make erect construct maintain and use such pits shafts inclines drifts levels waterways airways water-courses drains reservoirs engines machinery plant buildings canals tramways railways roads ways and other works and conveniences as may be deemed necessary or convenient *provided* that in the exercise of such liberty and power no hindrance or interference shall be caused to or with the liberties powers and privileges of the $\frac{\text{lessee}}{\text{lessees}}$ under these presents and that fair compensation shall be made to the $\frac{\text{lessee}}{\text{lessees}}$ for all loss or damage sustained by the $\frac{\text{lessee}}{\text{lessees}}$ by reason or in consequence of the exercise of such liberty and power.

Liberty to make railways and roads.

2. Liberty and power for the Secretary of State and any lessee or person authorized by him in that behalf to enter into and upon the said lands and to make upon over or through the same any railways tramways or roads for any other than the purposes aforesaid and to get from the said lands stone gravel earth and other materials for making maintaining and repairing such railways tramways and roads or any existing railways tramways and roads and to go and repass at all times over or along any such railways tramways or roads for all purposes and as occasion may require.

Part V.—Rents and royalties reserved by this lease.

Fixed half-yearly rent.

1. The $\frac{\text{lessee}}{\text{lessees}}$ shall as from the day of 19 during the subsistence of this lease pay to the Secretary of State the certain half-yearly rent of Rs. on the day of and the day of in each year the first payment thereof $\frac{\text{to be}}{\text{having been}}$ made on the day of 19 in respect of which rent the $\frac{\text{lessee}}{\text{lessees}}$ may in the half-year in respect of which the same is payable sell (convert) and

carry away such aggregate quantity of the said minerals as at the rates in the next succeeding clause mentioned would produce royalties for that half-year equal in amount to the said half-yearly rent but the said half-yearly rent shall be paid whether such quantity shall be sold (converted) and carried away or not.

Royalties.

2. The $\frac{\text{lessee}}{\text{lessees}}$ shall during the subsistence of this lease pay to the Secretary of State on the   day of   and the   day of   in each year—

Royalty at the rate of 5 per cent of the sale value at the pit's mouth of all mica produced from the said lands which shall be sold upon the said lands or carried away therefrom by the $\frac{\text{lessee}}{\text{lessees}}$ during the half-year preceding the said dates respectively in excess of the quantity which the $\frac{\text{lessee is}}{\text{lessees are}}$ authorized to sell and carry away in that half-year in respect of the said certain half-yearly rent.

Surface rent.

3. The $\frac{\text{lessee}}{\text{lessees}}$ shall pay to the Secretary of State in respect of all parts of the surface of the said lands which shall from time to time be occupied or used by the $\frac{\text{lessee}}{\text{lessees}}$ under the authority of these presents rent at the rate of Rs.   per annum per   of unassessed or poramboke lands and for other lands, viz., classified and assessed lands at a rate per acre equivalent to the land assessment thereon as mentioned in the revenue accounts of the village in which such lands shall be situate on the area so occupied or used and so in proportion for any area less than a   during the period from the commencement of such occupation or user until the area shall cease to be so occupied or used and shall be restored to its original condition which rent shall be computed and shall be paid on each of the half-yearly dates hereinbefore appointed for payment of the said certain half-yearly rent *PROVIDED* that no such rent shall be payable in respect of the occupation or user of the area comprised in any roads or ways existing on the said lands at the commencement of the term of this lease.

Part VI.—Provisions relating to the rents and royalties.

Place of payment.

1. *The rents and royalties mentioned in Part V of this Schedule shall be paid free from any deductions to*

the

at

or to such other officer and at such other place as the shall from time to time appoint.

Provided always and it is hereby agreed that Rs. , the balance standing to the credit of the $\frac{lessee}{lessees}$ *on account of the deposit made by* $\frac{him}{them}$ *on applying for this lease shall subject to the provisions hereinafter contained be retained and accepted by the Secretary of State in satisfaction of the rents and royalties mentioned in Part V until they reach that amount.*

2. *If in any half-year after the first 12 months of the said term the* $\frac{lessee}{lessees}$ *shall not [convert] and carry away such aggregate quantity of the said minerals as at the rates mentioned in clause 2 of Part V of this Schedule would produce royalties for that half-year equal in amount to the said certain half-yearly rent then and in such case the* $\frac{lessees}{lessee}$ *shall not in the next succeeding half-year pay any rent or royalty (other than the said certain half-yearly rent) in respect of the quantity of the said minerals sold (converted) or carried away in that half-year which is equivalent to the deficiency in the said minerals sold (converted) or carried away in the preceding half-year which shall at the rate of royalty payable during the succeeding half-year be required to produce royalties for the preceding half-year equal in amount to the said certain half-yearly rent.* Average clause.

3. *For the purpose of computing the said royalty the sale value shall be calculated upon the weight of the said mica as and when the same shall be sold or exported from the said mines and on the assumption that all such mica is the best of its size and will fetch the values thereof respectively set forth in the appendix hereto or in such other scale of values as may from time to time be prescribed by the Board of Revenue and such royalty shall be paid prior to the removal of the consignment from the mines. Provided that in case the lessee shall have paid such royalty at such rate and so calculated as aforesaid and shall produce to the said Collector within two years from the date of the export from the said mines of the mica in respect of which such royalty was payable a certificate by the shipper of such mica in a form prescribed by the Local Government together with a certificate or certificates from the broker or brokers to whom the mica was consigned showing the actual receipts from sales of such mica of each dimension as mentioned in the said appendix hereto, then and in that case, the lessee shall be entitled to receive from the lessor such amount (if any) as the lessee shall have paid in excess of the royalty payable on the mica sold at the price or prices mentioned in such receipts. Provided also that the consignments of mica do not break bulk prior to shipment and are kept* Mode of computation of royalty.

before shipment in such place and subject to such restrictions as may from time to time be prescribed by the Board of Revenue.

Part VII.—The Covenants of the lessee/lessees

To pay rents royalties rates and taxes.

1. The lessee/lessees shall pay the rents and royalty reserved by this lease at the times and in the manner provided in Parts V and VI *and shall also pay and discharge all taxes rates assessments and impositions whatsoever being in the nature of public demands which shall from time to time be charged assessed or imposed upon or in respect of the mines or works of the lessee/lessees or any part thereof by authority of the Government of India or the Local Government or otherwise except demands for land revenue and shall also pay interest at the rate of   per cent per annum on all arrears of such rents or royalty from the date whereon the same ought to be paid under these presents.*

To erect boundary marks.

2. The lessee/lessees shall at the lessee's/lessees' own expense forthwith erect and at all times maintain and keep in repair boundary marks and pillars along the boundaries of the said lands according to the demarcation shown in the plan hereto annexed. And shall also, in cases where, in the opinion of the Local Government, there is danger of mining operations extending beyond the boundary of the said lands, keep the boundary line between the said marks and pillars sufficiently clear of shrubs and other obstructions to allow of easy identification of such boundary.

To start operations within a year and to work continuously.

3. Unless good cause exists for exemption from this present covenant (a question on which the decision of the Local Government shall be final), the lessee/lessees shall within one year from the date of this lease start mining operations in the said lands to the satisfaction of the Local Government and shall unless exempted as aforesaid thereafter at all times during the continuance of this lease search for win work and develop the said minerals without voluntary intermission in a skilful and workmanlike manner and upon the most approved principle without doing or permitting to be done any unnecessary or avoidable damage to the surface of the said lands or the crops buildings structures or other property thereon and shall not cultivate or use the said lands in any manner other than as authorized by these presents.

To secure pits and shafts.

4. The lessee/lessees shall during the said term well and sufficiently secure and keep open with timber or other durable means all pits shafts and workings that may be made or

used in the said lands and make and maintain sufficient fences round every such pit or shaft and also shall at all times during the said term keep all workings in the said lands except such as may be abandoned free from water and from foul air as far as possible.

To strengthen and support mines.

5. The $\frac{\text{lessee}}{\text{lessees}}$ shall on notice from the Secretary of State strengthen and support to his satisfaction any part or parts of the mine when in his opinion such strengthening and support is needed for the safety of any railway reservoir canal or other public work or any building whether the said railway reservoir canal or other public work or other building shall be existing during the working of such part or parts of the mine already existing or shall be constructed after the said part or parts of the mine have been worked out. Such strengthening and support shall be made and done at the expense of the $\frac{\text{lessee}}{\text{lessees}}$ if they are needed for the safety of any railway reservoir canal or other public work or other buildings as aforesaid already existing at the time of the working of the said part or parts of the mine by reason of the $\frac{\text{lessee}}{\text{lessees}}$ having conducted mining operations within the limits prohibited by clause 4 of Part III of this schedule and in other cases at the expense of the Secretary of State.

To allow inspection of working.

6. The agents servants and workmen authorized by the Local Government in this behalf shall be at liberty at all reasonable times during the said term to inspect and examine all mines and works carried on by the $\frac{\text{lessee}}{\text{lessees}}$ in or under the said lands and make surveys or plans thereof *and the* $\frac{\textit{lessee}}{\textit{lessees}}$ *shall with proper persons employed by the* $\frac{\textit{lessee}}{\textit{lessees}}$ *and acquainted with the mines and works effectually assist such agents servants and workmen in conducting every such inspection and shall afford them all information connected with the working of the mines which they may reasonably require and also shall and will conform to and observe all orders and regulations which the Local Government as the result of such inspection or otherwise may from time to time see fit to impose in the interest of public health and safety.*

To report accidents.

7. The $\frac{\text{lessee}}{\text{lessees}}$ shall without delay send to the Collector or the Deputy Commissioner of the district a report of any accident which may at any time occur at or in the said lands or any pit shaft or working therein.

To report discovery of other minerals.

8. Whenever the $\frac{\text{lessee}}{\text{lessees}}$ shall find in the said lands any mineral or product other than the said minerals the $\frac{\text{lessee}}{\text{lessees}}$ shall immediately report such discovery in writing to the

Collector or Deputy Commissioner of the district with full particulars of the nature and position of each find.

To keep books of accounts and furnish abstracts, etc.

9. The $\frac{\text{lessee}}{\text{lessees}}$ shall at all times during the said term keep or cause to be kept at an office to be situate upon or near the said lands correct and intelligible books of accounts upon such plan or principle and in such form as may be approved of by the Local Government which books shall contain accurate entries showing from time to time (1) the quantity of the said minerals realized from the said lands (2) the quantity of the said minerals sold and exported respectively (3) the quantity of the said minerals otherwise disposed of and the manner and purpose of such disposition (4) the prices and other particulars of all sales of the said minerals (5) the number of persons employed in the mines or works in or upon the said lands and (6) all such other facts particulars and circumstances as the Local Government may consider necessary for conveniently ascertaining the amount of the royalty from time to time payable under these presents and the $\frac{\text{lessee}}{\text{lessees}}$ shall also furnish free of charge to such officer and at such times as the Local Government may appoint true and correct abstracts of all or any of such books of account and such information and returns as to all or any of the matters aforesaid as the Local Government may prescribe and shall at all reasonable times allow such officers as the Local Government shall in that behalf appoint to enter into and have free access to the said office for the purpose of examining and inspecting the said books of account and to take copies thereof and make extracts therefrom.

To keep plans of working.

10. The $\frac{\text{lessee}}{\text{lessees}}$ shall at all times during the said term cause to be made and kept at the said office correct and intelligible plans and sections of the mines in the said lands which plans and sections shall show as well the operations and workings carried on as also all vein-faults and other disturbances observed and encountered in such operations and workings *and all such plans and sections shall be amended and filled up by and from actual surveys to be made for that purpose at the end of every period of twelve months* and the $\frac{\text{lessee}}{\text{lessees}}$ shall furnish free of charge to the Local Government true and correct copies of such plans and sections whenever thereunto required.

To provide weighing machine.

11. The $\frac{\text{lessee}}{\text{lessees}}$ shall provide and at all times keep at or near the pit head or each of the pit heads at which the said minerals shall be brought to bank a properly constructed and efficient weighing machine and shall weigh or cause to be weighed thereon all the said minerals from time to time brought to bank sold exported [and converted] and shall at the close of each day cause the total weights ascertained

by such means of the said minerals raised sold exported [and converted] during the previous twenty-four hours to be entered in the aforesaid books of account and will permit the Local Government at all times during the said terms to employ any person or persons to be present at the weighing of the said minerals as aforesaid and to keep accounts thereof and to check the accounts kept by the $\frac{\text{lessee}}{\text{lessees}}$.

12. *The $\frac{\text{lessee}}{\text{lessees}}$ shall allow any person or persons appointed in that behalf by the Local Government at any time or times during the said term to examine and test every weighing machine to be provided and kept as aforesaid and the weights used therewith in order to ascertain whether the same respectively are correct and in good repair and order and if upon any such examination or testing and such weighing machine or weights shall be found incorrect or out of repair or order the Local Government may require that the same be adjusted repaired and put in order by and at the expense of the $\frac{\text{lessee}}{\text{lessees}}$ and if such requisition be not complied with within fourteen days after the same shall have been made the Local Government may cause such weighing machine or weights to be adjusted repaired and put in order and the expense of so doing shall be paid by the $\frac{\text{lessee}}{\text{lessees}}$ to the Local Government on demand and if upon any such examination or testing as aforesaid any error shall be discovered in any weighing machine or weights to the prejudice of the Secretary of State such error shall be regarded as having existed for three calendar months previous to the discovery thereof or from the last occasion of so examining and testing the same weighing machine and weights in case such occasion shall be within such period of three months and the said rent and royalty shall be paid and accounted for accordingly.* *To allow test of weighing machines.*

13. The $\frac{\text{lessee}}{\text{lessees}}$ shall make and pay reasonable satisfaction and compensation for all damage or injury to person or property which may be done by or on the part of the $\frac{\text{lessee}}{\text{lessees}}$ in exercise of the liberties and powers granted by these presents and shall at all times save harmless and keep indemnified the Secretary of State from and against all suits claims and demands which may be brought or made by any person or persons in respect of any such damage or injury. To pay compensation for injury to third parties.

13-A. The lessee will within six calendar months after the expiration or sooner determination of the term hereby granted or the date of the abandonment of the undertaking or the cessation of excavation or working in any pit opened or worked by the lessee under the terms hereof whichever shall first occur securely fill up to the satisfaction of the Collector

every pit excavated by the lessee on the lands herein included unless the royalty paid or payable under clause 2 of part V hereof in respect of such pit exceeds Rs. 200 or the Collector shall in writing have dispensed with such filling up in whole or in part. Subject as aforesaid and to the provisions of the next succeeding clause the lessee will within six months after the expiration or sooner determination of the term hereof or the date of the abandonment of the undertaking restore to its natural or original condition and render fit for cultivation again to such extent as the Collector may require the surface of all lands which shall be occupied or used by the lessee for any of the purposes of this demise.

13-B. The Collector may retain out of the amount standing to the credit of the lessee on account of the deposit made by him on applying for this lease such sum as he may determine necessary as security for and on account of compensation for which claims may be made by any person or persons against the $\frac{\text{lessee}}{\text{lessees}}$ and the Secretary of State in respect of any damage or injury done by the $\frac{\text{lessee}}{\text{lessees}}$ in exercise of any of the powers conferred by this lease and in or towards payment of any damage costs and expenses which may become payable as the result of or in connexion with any suits or proceedings which may be instituted against the Secretary of State in respect of any such damage or injury and also for the restoration by the $\frac{\text{lessee}}{\text{lessees}}$ to its natural or orginal condition of the surface of all lands which shall be occupied by the $\frac{\text{lessee}}{\text{lessees}}$ and for the cost of fencing or filling in of abandoned pits made by the $\frac{\text{lessee}}{\text{lessees}}$ in the said lands during $\frac{\text{his}}{\text{their}}$ tenancy thereof.

G.O. Mis. No. 714, Development, dated 17th May 1922.

G.O. Mis. No. 554, Development, dated 21st April 1923

B.P. Mis. No. 1494, dated 6th July 1923.

Not to obstruct working of other minerals.

14. The $\frac{\text{lessee}}{\text{lessees}}$ will exercise the liberties and powers hereby granted in such a manner as to offer no unnecessary or reasonably avoidable obstruction or interruption to the development and working of any minerals not included in this lease and will at all times afford to the Secretary of State and to the holders of prospecting licences or mining leases in respect of any such minerals or any minerals within any lands adjacent to the said lands reasonable means of access and safe and convenient passage upon and across the said lands to such minerals for the purpose of getting working developing and carrying away the same.

Restrictions on assignment or transfer.

15. The lessee/lessees shall not assign this lease or transfer any interest hereunder, without the previous written sanction of the Local Government.

Provided that in case of any such assignment or transfer as aforesaid (authorized or sanctioned by or under this provision) the instrument thereof shall within three calendar months from the date of its completion be produced to the Collector and the sum of Rs. 50 paid to the Collector as the fee for registration thereof in his office.

Not to be financed or controlled by any Trust, Syndicate or Corporation.

16. The lessee shall not enter into or make any arrangement compact or understanding whereby the lessee/lessees will or may be directly or indirectly financed or by or under which the lessee's/lessees' operations or undertakings will or may be carried on directly or indirectly by or for the benefit of or subject to the control of any Trust Syndicate Corporation firm or person unless with the written sanction given prior to such arrangement compact or understanding being entered into or made of the Local Government and any or every such arrangement compact or understanding as aforesaid (entered into or made with such sanction as aforesaid) shall only be entered into or made and shall always be subject to an express condition binding upon the other party or parties thereto that on the occasion of a state of emergency of which the Governor-General of India in Council shall be the sole judge it shall be terminable if so required in writing by the Local Government or enabling it to be so determined and shall in the event of any such requisition being made be forthwith thereafter determined by the lessee/lessees accordingly.

To deliver up mines, etc., in good order.

17. The lessee/lessees will at the expiration or sooner determination of the said term deliver up to the Secretary of State all mines pits shafts inclines drifts levels waterways airways and other works [now existing] hereafter to be sunk or made under the said lands (except such as may have been abandoned with the sanction of the Local Government or in an ordinary and fair course of working) and all [engines machinery plant buildings structures and other works and conveniences which at the commencement of the said term were upon or under the said lands and all] engines machinery plant and fixtures set up by the lessee/lessees below ground level which cannot be removed without causing injury to any mines or works under the said lands (except such of the same as may with the sanction of the Local Government have become disused) and all buildings and structures of brick or stone erected by the

lessee/lessees above ground level in good repair order and condition and fit in all respects for further working of the said minerals.

To remain British in constitution.

18. (*a*) The lessee/lessees shall at all times during the said term remain or be a British subject or subjects or a British Company or Corporation registered incorporated or established in British India or the United Kingdom or some other part of His Majesty's dominions and of which at all times during the said term the Chairman or President or other person occupying that or any similar position (if any) and the Managing Director (if any) and a majority of the other Directors (if any) shall be a British subject or British subjects and the Managing Agents or Managing Agent Secretaries or Secretary (if any) shall be a firm of which every member is a British subject an individual who is a British subject or a Company in every respect answering the description and satisfying the conditions last hereinbefore contained and laid down as those to which the Company itself must as the lessee/lessees conform.

(*b*) The Local General Manager and not less than per cent of the local staff employed by the lessee/lessees shall at all times during the said term be a British subject or British subjects and neither the lessee/lessees nor the said mines and minerals shall at any time during the said term be or become directly or indirectly controlled or managed by any person or persons who are not a British subject or subjects or a Company in every respect answering to the description and satisfying the conditions last hereinbefore mentioned.

19. The lessee being a Company or Corporation shall report to the Local Government any alteration in its Memorandum or Articles of Association, or in its constitution within* after the same shall have been made and shall give two months' previous notice in writing to the Local Government of any intention or proposal to make any such alteration which might conceivably affect its British status or character and no such alteration shall be made unless the Local Government shall have previously consented thereto in writing PROVIDED ALWAYS that the consent of the Local Government shall not be refused to any such alteration as aforesaid in the Memorandum and Articles of Association or the constitution of the lessee unless in its opinion such alterations shall be contrary to the cardinal principle laid down by Government in respect of the said minerals that is to say that the lessee/lessees shall be and remain a British subject or British subjects or a British Company under British control.

* *Here insert suitable period within which report should be sent.*

Right of pre-emption.

20. (*a*) The Secretary of State shall from time to time and at all times during the said term have the right (to be exercised by notice in writing to the lessee/lessees under the hand of any Secretary to Government) of pre-emption of the said minerals (and all products thereof) lying upon the said lands hereby demised or elsewhere under the control of the lessee/lessees and the lessee/lessees shall, with all possible expedition and so as to avoid demurrage on the vessel or vessels engaged to convey the same, deliver all minerals or products of minerals purchsade by the Secretary of State under the power conferred by this provision in the quantities at the times in the manner and at the place of shipment or storage specified in the notice exercising the said right.

(*b*) Should the right of pre-emption conferred by this present provision be exercised and a vessel chartered to carry the minerals or products thereof procured on behalf of the Secretary of State hereunder be detained on demurrage at the port of loading, the lessee/lessees shall pay the amount due for demurrage according to the terms of the charter party of such vessel unless the Secretary of State shall be satisfied that the delay is due to causes beyond the control of the lessee/lessees.

(*c*) The price to be paid for all minerals or products of minerals taken in pre-emption by the Secretary of State in exercise of the right hereby conferred shall be the fair market price for the time being to be determined in default of agreement by the Local Government under the provision in that behalf hereinafter in clause 13 of Part IX of this schedule contained PROVIDED THAT in order to assist in arriving at the said fair market price the lessee/lessees shall if so required furnish to the Local Government for the confidential information of the Secretary of State particulars of the quantities, descriptions and prices of the said minerals or products thereof sold to other customers and of charters entered into for freight for carriage of the same and shall produce to such officer or officers as may be directed by the Local Government original or authenticated copies of contracts and charter parties entered into for the sale or freightage of such minerals or products.

(*d*) On the occasion of a state of emergency of which the Secretary of State shall be the sole judge and notice in writing under the hand of any Secretary to Government shall be conclusive evidence the lessee/lessees shall on receiving such notice requiring him/them so to do use his/their utmost endeavours to increase the supply to or for the Secretary of State of

the mineral or products thereof purchased by him as aforesaid to the extent specified in such notice.

To despatch consignment only after inspection.

21. The lessee shall not without the consent in writing of the Collector despatch any consignment of mica from the said mines, unless it shall have been inspected and its removal authorized by a Government officer appointed for the purpose. The dates on which the inspection will be made will be notified by the Collector to the lessee, but if the lessee desires to despatch a consignment on any other date he shall give the Collector a fortnight's notice of such intention.

Part VIII.—The covenants of the Secretary of State.

For quiet enjoyment.

1. *The $\frac{\text{lessee}}{\text{lessees}}$ paying the rents and royalties hereby reserved and observing and performing all the covenants and agreements herein contained and on the part of the $\frac{\text{lessee}}{\text{lessees}}$ to be observed and performed shall and may quietly hold and enjoy the rights and premises hereby demised for and during the term hereby granted without any lawful interruption from or by the Secretary of State or any person rightfully claiming under him.*

To renew.

2. *If the $\frac{\text{lessee}}{\text{lessees}}$ shall be desirous of taking a renewed lease of the premises hereby demised for the further term of years from the expiration of the said terms hereby granted and of such desire shall prior to the expiration of such last mentioned term give to the (*

) six calendar months' previous notice in writing and shall pay the rents and royalties hereby reserved and observe and perform the several covenants and agreements herein contained and on the part of the $\frac{\text{lessee}}{\text{lessees}}$ to be observed and performed up to the expiration of the said term hereby granted the Secretary of State will upon the request and at the expense of the $\frac{\text{lessee}}{\text{lessees}}$ and upon his executing and delivering to the Secretary of State if required a counterpart thereof execute and deliver to the $\frac{\text{lessee}}{\text{lessees}}$ a renewed lease of the said premises for the further term of years at such rents not exceeding twice the rents hereby reserved and at such royalties as may be prescribed by the Government of India but otherwise upon the like terms and under and subject to the like covenants and agreements as are contained in these presents including this present covenant but varied so that no third renewal is claimable and so that during a second renewal the royalties payable shall be such as may be prescribed by the Governor-General in Council and the rents payable thereunder shall

be such as may be fixed by the Local Government but such rents shall not exceed twice the rents reserved under the first renewal lease.

Part IX.—General Provisions.

Power of distress.

1. If any rent or royalty hereby reserved shall be in arrear or unpaid for the space of two calendar months next after the day whereon the same ought to be paid then (whether the same shall have been formally demanded or not) and so often as the same shall happen the Local Government on behalf of the Secretary of State may enter into and upon the said lands and may distrain all or any of the minerals mineral ore movable engines machinery plant live and dead stock and other movable property belonging to the $\frac{\text{lessee}}{\text{lessees}}$ which shall be found in or upon the same premises and may sell and dispose of the same and apply the proceeds thereof in or towards the satisfaction and payment of the rent or royalty which shall then be in arrear and all costs and expenses occasioned by the non-payment thereof or by such distress.

Power of re-entry

2. If any rent or royalty hereby reserved shall be in arrear or unpaid for the space of six calendar months next after the day whereon the same ought to be paid (whether the same shall have been formally demanded or not) or if the $\frac{\text{lessee}}{\text{lessees}}$ shall fail or neglect to perform or observe any of the covenants and agreements contained in these presents and on the part of the $\frac{\text{lessee}}{\text{lessees}}$ to be observed and performed or in case it shall appear to the Local Government that its sanction to any such assignment transfer grant arrangement compact or understanding as mentioned in clauses 15 and 16 of the covenants by the $\frac{\textit{lessee}}{\text{lessees}}$ hereinbefore in Part VII of these presents contained was improperly obtained or that any improper use of the rights or powers under any such arrangement compact or understanding as aforesaid of any party thereto has been made by or with the connivance of the $\frac{\text{lessee}}{\text{lessees}}$ or if the $\frac{\text{lessee}}{\text{lessees}}$ shall fail (unless exempted by the Local Government for good cause) during two consecutive years of the said term to get from the said lands so much of the said minerals as at the rates of royalty hereinbefore mentioned would produce royalties for those years equal in amount to the said certain half-yearly rent payable during that period then and in any such case it shall be lawful for the Local Government on behalf of the Secretary of State at any time thereafter and although advantage may not have been taken of some previous default of a like nature to re enter into and upon the said premises or any part thereof in

the name of the whole and thereupon this present lease and the said term and the liberties powers and privileges hereby granted shall absolutely cease and determine but without prejudice to any right or remedy of the Secretary of State in respect of any breach of any of the covenants and agreements contained in these presents or for the recovery of any rent or royalty remaining unpaid.

Penalty for breach of covenant.

3. If the $\frac{\text{lessee}}{\text{lessees}}$ shall at any time during the said term commit a breach of any covenant or agreement contained in these presents and on the part of the $\frac{\text{lessee}}{\text{lessees}}$ to be observed or performed it shall be lawful for the Local Government as the consideration for the non-exercise of the power of re-entry contained in the last preceding clause hereof to receive from the $\frac{\text{lessee}}{\text{lessees}}$ such penalty for the breach not exceeding four times the amount of the said certain half-yearly rent as the Local Government may fix.

Power to lessee to remove property.

4. The $\frac{\text{lessee}}{\text{lessees}}$ (having first paid and discharged the rents and royalties payable by virtue of these presents) may at the expiration or sooner determination of the said term or within six calendar months thereafter unless the lease shall be determined under clause 2 of this part and in that case at any time not less than three calendar months nor more than six calendar months after such determination, take down take up and remove for the benefit of the $\frac{\text{lessee}}{\text{lessees}}$ all or any engines machinery plant buildings structures tramways railways and other works erections and convenience which may have been erected set up or placed by the $\frac{\text{lessee}}{\text{lessees}}$ in or upon the said lands and which the $\frac{\text{lessee is}}{\text{lessees are}}$ not bound to deliver up to the Secretary of State under clause 17 of Part VII of this schedule and the Secretary of State shall not desire to purchase under the provisions of clause 5 of this part and also all minerals and mineral ore won by the $\frac{\text{lessee}}{\text{lessees}}$ under the authority of these presents and then remaining in or upon the said lands making reasonable compensation for all damage done to the said lands by such removal.

Power to Secretary of State to purchase property.

5. *If at the expiration or sooner determination of the said term the Secretary of State shall desire to purchase all or any of the engines machinery plant buildings structures tramways railways and other works erections and conveniences which may have been erected set up or placed by the* $\frac{\text{lessee}}{\text{lessees}}$ *in or upon the said lands and which the* $\frac{\text{lessee is}}{\text{lessees are}}$ *not bound to deliver up under clause 17 of Part VII of this schedule and if such desire shall be signified by a notice in*

writing given to the $\frac{\text{lessee}}{\text{lessees}}$ by the Collector six calendar months before the expiration or sooner determination of the said term or if this lease shall be determined under clause 2 of this part at any time within three calendar months after such determination then and in such case the articles and things specified in such notice shall not be removed by the $\frac{\text{lessee}}{\text{lessees}}$ but shall be purchased by the Secretary of State at a price equivalent to the cost of the same at the time of their erection upon the said lands after deducting from such cost a sum equal to per cent thereof for every year which shall have elapsed since that time.

Forfeiture of property left for more than six months after determination of lease.

6. If at the expiration of six calendar months after the expiration or sooner determination of the said term there shall remain in or upon the said lands any engines machinery plant buildings structures tramways railways and other works erections and conveniences or minerals or mineral ores or other property which the $\frac{\text{lessee is}}{\text{lessees are}}$ entitled to remove from the said lands the same shall if not removed by the $\frac{\text{lessee}}{\text{lessees}}$ within one calendar month after notice in writing requiring their removal be given to the $\frac{\text{lessee}}{\text{lessees}}$ by the Collector be deemed to become the property of the Secretary of State and may be sold or disposed of for the benefit of the Secretary of State in such manner as he shall deem fit without liability to pay any compensation or to account to the $\frac{\text{lessee}}{\text{lessees}}$ in respect thereof.

Power to surrender.

7. The $\frac{\text{lessee}}{\text{lessees}}$ may at any time determine this lease by giving not less than twelve calendar months' notice in writing to the Collector and upon the expiration of such notice and provided the $\frac{\text{lessee}}{\text{lessees}}$ shall upon such expiration render and pay all rents royalties compensation for damage and other moneys which may then be due and payable under these presents to the Secretary of State or any other person or persons and shall deliver up these presents to the Collector then this present lease and the said term and the liberties powers and privileges hereby granted shall absolutely cease and determine but without prejudice to any right or remedy of the Secretary of State in respect of any breach of any of the covenants or agreements contained in these presents.

Destruction of mines or works.

8. If at any time during the continuance of this demise the said mines and works shall become destroyed or rendered substantially and permanently unfit for the purposes of this demise by fire tempest or flood or violence of any army or mob

or other *irresistible force these presents shall at the option* of the lessee/lessees be void provided that if the injury be occasioned by the wrongful act or default of the lessee/lessees or the servants of the lessee/lessees the lessee/lessees shall not be entitled to the benefit of this provision. And provided also that if this lease shall become void for or by reason of any of the causes aforesaid it shall be without prejudice to the rights and remedies of the Secretary of State under or by virtue of these presents for the recovery of any rent or royalty which may then remain unpaid or in respect of any breach which may have been committed of any of the covenants herein contained on the part of the lessee/lessees.

Power to take possession in event of war or emergency.

9. In the event of war or on the occasion of a state of emergency of which the Secretary of State shall be the sole judge and the notice next hereinafter mentioned shall be conclusive evidence the Secretary of State may forthwith after notice in writing to the lessee/lessees under the hand of any Secretary to Government of his intention so to do take possession or assume control of the works plant machinery and premises of the lessee/lessees at or in connexion with the said mines and the lessee/lessees shall conform and obey all directions given by or on behalf of the Secretary of State regarding the use or employment of such works plant and premises PROVIDED THAT fair compensation which shall be determined in default of agreement by the Local Government under the provision hereinafter in clause 13 of this part contained shall be paid to the lessee/lessees for all loss or damage sustained by him/them by reason or in consequence of the exercise of the powers conferred by this clause and *PROVIDED ALSO that* the exercise of such powers shall not determine the said term hereby granted or affect the terms and provisions of these presents further than may be necessary to give effect to the provisions of this clause.

Lessee's rights in respect of other minerals.

10. If any minerals not included in this lease shall during the said term be discovered by the lessee/lessees *within the said lands and if no mining lease shall* then be held by any other person in respect of the same the lessee/lessees shall during the twelve calendar months next succeeding the discovery thereof have the option of taking a mining lease in accordance with the rules prescribed by the *Governor General in* Council for the grant of prospecting licences and mining leases in respect of such minerals over so much of the said

lands as the lessee/lessees may desire and during such period of twelve calendar months the lessee/lessees shall be entitled to win work and carry away any of the minerals so discovered on payment therefor to the Secretary of State of such royalty not being less than 20 per cent of the value of such minerals as the Local Government may prescribe or in case of precious stones shall have the right during the said period of twelve calendar months to the first offer of such mining lease in respect of such precious stones as the Governor General in Council may think fit to grant.

Service of notices on lessee.

11. Every notice by these presents required or authorized to be given to the lessee/lessees may be given to such person resident on the said lands as the lessee/lessees may appoint for the purpose of receiving such notices or if there shall be no such person then to any person in the employ of the lessee/lessees who may be found upon the said lands or if no such person be found then the same may be left at the said office of the lessee/lessees upon the said lands or affixed in a conspicuous position upon some building or erection in the occupation of the lessee/lessees upon the said lands.

Interpretation of terms "Collector" and "Local Government."

12. In these presents the expression "the Collector" shall mean the Revenue Officer in charge of the district within which the said lands are situate and the expression "the Local Government" shall mean the Local Government or Chief Commissioner as the case may be within whose administrative jurisdiction the said lands are situate or any delegate of such Local Government or Chief Commissioner.

Arbitration clause.

13. If and whenever any question or dispute shall arise in regard to the construction meaning, or effect of these presents or any clause or thing herein contained or in regard to the manner or sufficiency of the observance or performance by the lessee/lessees of any covenant or agreement herein contained or in regard to the mode of working of the said minerals or the maintenance or condition of any works in or upon the said lands or in regard to any valuation to be made under these presents or in regard to the amount or payment of any rent royalty compensation or other money payable by the lessee/lessees or in regard to any other matter or thing relating to or arising out of these presents such question or dispute shall be determined by the Local Government whose decision thereon shall be final and binding on the parties hereto.

Appendix showing the scale of value to be adopted for the purpose of calculating royalty leviable upon every pound of mica removed from the mines.

Class			Stained mica.			Clear mica.		
			RS.	A.	P.	RS.	A.	P.
I	4 square inches and under	..	0	4	0	0	5	0
II	above 4 square inches and not more than	8 ..	0	6	0	0	11	0
III	„ 8 „ „	16 ..	0	15	0	3	8	0
IV	„ 16 „ „	32 ..	2	4	0	6	2	0
V	„ 32 „ „	48 ..	4	8	0	8	12	0
VI	„ 48 „ „	64 ..	6	12	0	12	4	0
VII	„ 64 „ „	80 ..	9	0	0	15	12	0
VIII	„ 80 „ „	96 ..	11	4	0	19	4	0
IX	„ 96 „ „	112 ..	13	8	0	22	12	0

Flimsy mica—8 annas per pound irrespective of size and quality.
Scrap and waste mica which cannot be used as mica—Rs. 5 per ton, irrespective of size and quality.

Note.—The size of plates shall be calculated for assessment according to the greatest rectangular area the slabs will yield.

Signed by—

[name and designation]

for and on behalf of the acting in the premises for and on behalf of the Secretary of State for India in Council in the presence of

(1) This clause is to be used where the lease is granted to one or more individuals (the name of the constituted attorney being filled in if the lessee or lessees do not sign personally).

(1) Signed by the abovenamed

by his/their attorney

in the presence of

(2) This clause is to be used where the lease is granted to a registered company and if the signature is by an agent or attorney the appropriate designation should be inserted in place of the " word director."

(2) Signed in the name and on behalf of the abovenamed

by

director of the said company in the presence of

(3) Signed in the name and on behalf of the abovenamed

by their authorized agent

in the presence of

(4) Signed by the abovenamed

(by their attorney / agent.)

in the presence of

(3) This clause is to be used where the lease is granted to an unincorporated syndicate.

(4) This clause is to be used where the lease is granted to a private firm (the name of the attorney or agent being filled in if the signature is not by a partner in the firm).

APPENDIX XVII.

[See Rule 7 in Chapter VII.]

Form of account to be kept by mica lessee.

STAINED MICA.

Date. (1)	Gross weight of untrimmed slabs removed from mine to store. (2)	Gross weight of untrimmed slabs trimmed or other wise made merchantable. (3)	Wastage. (4)	Weight of trimmed or merchantable mica classified according to scale prescribed.									
				Class I, 4 square inches and under.	Schedule value at As. 4 per lb.	Class II, 4 square inches to 8 square inches.	Schedule value at As. 6 per lb	Class III, 8 square inches to 16 square inches.	Schedule value at As. 15 per lb. (C)	Class IV, 16 square inches to 32 square inches.	Schedule value at Rs. 2-4-0 per lb.	Class V, 32 square inches to 48 square inches.	Schedule value at Rs. 4-8-0 per lb.
				LB.	RS. A. P.	LB.	RS. A. P.	LB.	RS. A. P.	LB.	RS. A. P.	LB.	RS. A. P.
Balance at the beginning of the month (August).	1,000	(a) 600	..	200	..	200	..	100	..	100	..	..	..
August 1st	200	100	50	30	..	20	..	10	..	10	..	10	..
Do. 2nd	100	..	..	..	..	..	..	..	..	..	..	..	..
Do. 3rd	..	300	200	50	..	40	..	40	.	40	..	50	..
Do. 4th	300	400	150	60	..	50	..	50	..	40	..	50	..
Total ..	..	1,400	..	340	..	310	..	200	..	190	..	110	..
Less trimmed mica forwarded to consignee.	..	(e) 1,250	..	300	75 0 0	300	112 8 0	200	187 8 0	150	*..	100	*..
Balance	..	150	..	40		10	..	..	..	40	..	10	..
August 5th	300	350	100	50	..	40	..	20	..	50	..	50	..
Do. 6th	450	350	250	100	..	70	..	50	..	40	..	30	..
Do. 7th	250	100	150	40	..	20	..	10		10	..	10	..
Do. 8th	..	..	..	..	..	..	..	..	..	..	..	..	..
Total ..	(b) 2,600	(c) 950	(d) 900	230	..	140	..	80	..	140	..	100	..
Balance at the end of the month.	(f) 100	950	..	230	..	140	..	80	..	140	..	100	..

* Value to be entered here.

Date.	Weight of trimmed or merchantable mica classified according to scale prescribed—*cont.* (5)—*cont.*								(6)	(7)	(8)	(9)	(10)
	Class VI, 48 square inches to 64 square inches.	Schedule value at Rs. 6-12-0 per lb.	Class VII, 64 square inches to 80 square inches.	Schedule value at Rs. 9 per lb.	Class VIII, 80 square inches to 96 square inches.	Schedule value at Rs. 11-4-0 per lb.	Class IX, 96 square inches to 112 square inches.	Schedule value at Rs. 13-8-0 per lb.	Total schedule value.	Royalty due at 5 per cent.	Date of despatch of consignment.	Name of consignee.	Remarks.
	LB.	RS. A. P.	LB.	RS. A. P.	LB.	RS. A. P.	LB.		RS. A. P.	RS. A. P.			
Balance at the beginning of the month (August).	..	..	..	..	..	..	..	..	..	..	..	..	..
August 1st	10	..	..	..	10	..	.	..	..	..	..	..	..
Do. 2nd	..	..	..	..	..	..	..	..	..	..	..	..	..
Do. 3rd	30	..	30	..	10	..	10	..	..	..	..	..	..
Do. 4th	60	..	30	..	30	.	30	..	..	..	..	..	..
Total ..	100	..	60	.	50	..	40	..	..	..	..	..	..
Less trimmed mica forwarded to consignee.	100	675 0 0	50	450 0 0	50	562 8 0	..	..	2,850 0 0	94 6 0	..	..	..
Balance	..	..	10	..	..	..	40	..	..	..	..	..	..
August 5th	40	..	50	..	30	..	20	..	..	..	..	..	..
Do. 6th	20	..	20	..	10	..	10	..	..	..	..	..	..
Do. 7th	..	..	10	..	..	..	..	..	..	..	..	..	..
Do. 8th to 31st* ..	..	..	..	..	..	..	..	..		..	..	..	..
Total ..	60	..	90	..	40	..	70	..	..	..	..	..	..
Balance at the end of the month	60	..	90	..	40	..	70	..	..	..	..	..	..

* Details in the same way as above.

Note.—Items (*a*) and (*b*) together must always be equal to items (*c*), (*d*), (*e*) and (*f*) together.
The same form should be adopted for clear mica and the heading should be changed into "clear mica" and the schedule value altered.

PART C.—THE MINES ACT AND ITS WORKING.

CHAPTER IX.—THE INDIAN MINES ACT IV OF 1923.

[23rd February 1923.]

An Act to amend and consolidate the law relating to the regulation and inspection of mines.

WHEREAS it is expedient to amend and consolidate the law relating to the regulation and inspection of mines; It is hereby enacted as follows:—

PRELIMINARY.

Short title, extent and commencement.

1. (1) This Act may be called the Indian Mines Act, 1923.

(2) It extends to the whole of British India, including British Baluchistan and the Sonthal Parganas.

(3) It shall come into force on the first day of July 1924.

Saving of Reg. XII of 1887.

2. Nothing in this Act shall be construed to affect the provisions of the Upper Burma Ruby Regulation, 1887. XII of 1887.

Definitions.

3. In this Act, unless there is anything repugnant in the subject or context,—

(*a*) "agent," when used in relation to a mine, means any person appointed or acting as the representative of the owner in respect of the management of the mine or of any part thereof, and as such superior to a manager under this Act;

(*b*) "Chief Inspector" means the Chief Inspector of Mines appointed under this Act;

(*c*) "child" means a person under the age of thirteen years;

(*d*) a person is said to be "employed" in a mine who works under appointment by or with the knowledge of the manager, whether for wages or not, in any mining

operation, or in cleaning or oiling any part of any machinery used in or about the mine, or in any other kind of work whatsoever incidental to, or connected with, mining operations;

(*e*) "Inspector" means an Inspector of Mines appointed under this Act, and includes a District Magistrate when exercising any power or performing any duty of an Inspector which he is empowered by this Act to exercise or perform;

(*f*) "mine" means any excavation where any operation for the purpose of searching for or obtaining minerals has been or is being carried on, and includes all works, machinery, tramways and sidings, whether above or below ground, in or adjacent to or belonging to a mine:

provided that it shall not include any part of such premises on which a manufacturing process is being carried on unless such process is a process for coke making or the dressing of minerals;

(*g*) "owner," when used in relation to a mine, means any person who is the immediate proprietor or lessee or occupier of the mine or of any part thereof, but does not include a person who merely receives a royalty, rent or fine from the mine, or is merely the proprietor of the mine subject to any lease, grant or licence for the working thereof, or is merely the owner of the soil and not interested in the minerals of the mine; but any contractor for the working of a mine or any part thereof shall be subject to this Act in like manner as if he were an owner, but not so as to exempt the owner from any liability;

(*h*) "prescribed" means prescribed by regulations, rules or by-laws;

(*i*) "qualified medical practitioner" means any person registered under the Medical Act, 1858, or any Act amending the same or under any Act of any Legislature in British India providing for the maintenance of a register of medical practitioners, and includes, in any area where no such last-mentioned Act is in force, any person declared by the Local Government, by notification in the local official Gazette, to be a qualified medical practitioner for the purposes of this Act;

21 & 22 Vict., c. 90.

(*j*) "regulations," "rules" and "by-laws" mean respectively regulations, rules and by-laws made under this Act;

(*k*) "serious bodily injury" means any injury which involves, or in all probability will involve, the permanent loss of the use of, or permanent injury to, any limb, or the permanent loss of, or injury to, the sight or hearing, or the fracture of any limb, or the enforced absence of the injured person from work for a period exceeding twenty days; and

(*l*) "week" means the period between midnight on Saturday night and midnight on the succeeding Saturday night.

INSPECTORS.

Chief Inspector and Inspectors.

4. (1) The Governor-General in Council may, by notification in the Gazette of India, appoint a duly qualified person to be Chief Inspector of Mines for the whole of British India, and duly qualified persons to be Inspectors of Mines subordinate to the Chief Inspector.

(2) No person shall be appointed to be Chief Inspector or an Inspector, or, having been appointed, shall continue to hold such office who is or becomes directly or indirectly interested in any mine or mining rights in India.

(3) The District Magistrate may exercise the powers and perform the duties of an Inspector subject to the general or special orders of the Local Government:

Provided that nothing in this sub-section shall be deemed to empower a District Magistrate to exercise any of the powers conferred by section 19 or section 32.

(4) The Chief Inspector and every Inspector shall be deemed to be a public servant within the meaning of the Indian Penal Code. XLV of 1860.

Functions of Inspectors.

5. (1) The Chief Inspector may, by order in writing, prohibit or restrict the exercise by any Inspector named, or any class of Inspectors specified, in the order of any power conferred on Inspectors by this Act, and shall subject as aforesaid, declare the local area or areas within which, or the group or class of mines with respect to which, Inspectors shall exercise their respective powers.

(2) The Inspector shall give information to owners, agents and managers of mines, situated within the local area or areas or belonging to the group or class of mines, in respect of which he exercises powers under sub-section (1) as to all regulations and rules which concern them respectively and as to the places where copies of such regulations and rules may be obtained.

6. The Chief Inspector and any Inspector may— Powers of Inspectors of Mines.

(a) make such examination and inquiry as he thinks fit in order to ascertain whether the provisions of this Act and of the regulations, rules and by-laws and of any orders made thereunder are observed in the case of any mine;

(b) with such assistants (if any) as he thinks fit, enter, inspect and examine any mine or any part thereof, at any reasonable time by day or night, but not so as unreasonably to impede or obstruct the working of the mine;

(c) examine into, and make inquiry respecting, the state and condition of any mine or any part thereof, the ventilation of the mine, the sufficiency of the by-laws for the time being in force relating to the mine, and all matters and things connected with or relating to the safety of the persons employed in the mine.

7. Any person in the service of the Government duly authorized by a special order in writing of the Chief Inspector or of an Inspector in this behalf may, for the purpose of surveying, levelling or measuring in any mine, after giving not less than three days' notice to the manager of such mine, enter the mine and may survey, level or measure the mine or any part thereof at any reasonable time by day or night, but not so as unreasonably to impede or obstruct the working of the mine. Powers of special officer to enter, measure, etc.

8. Every owner, agent and manager of a mine shall afford the Chief Inspector and every Inspector and every person authorized under section 7 all reasonable facilities for making any entry, inspection, survey, measurement, examination or inquiry under this Act. Facilities to be afforded to Inspectors.

9. (1) All copies of, and extracts from, registers or other records appertaining to any mine, and all other information acquired by the Chief Inspector or an Inspector or by any one assisting him, in the course of the inspection of any mine under this Act or acquired by any person authorized under section 7 in the exercise of his duties thereunder, shall be regarded as confidential. Secrecy of information obtained.

(2) If the Chief Inspector, or an Inspector or any other person referred to in sub-section (1) discloses to any one, other than a Magistrate or an officer to whom he is subordinate, any such information as aforesaid without the consent of the Governor-General in Council or of the

Local Government, he shall be guilty of a breach of official trust, and shall be punishable in the manner provided by section 4 of the Indian Official Secrets Act, 1889. XV of 1889.

(3) No Court shall proceed to the trial of any offence under this section except on complaint made by order of, or under authority from, the Governor-General in Council or the Local Government, or made by a person aggrieved by the offence.

MINING BOARDS AND COMMITTEES.

Mining Boards. 10. (1) The Local Government may constitute for the province, or for any part of the province, or for any group or class of mines in the province, a Mining Board consisting of—

(*a*) a person in the service of the Government, not being the Chief Inspector or an Inspector, nominated by the Local Government to act as chairman;

(*b*) the Chief Inspector or an Inspector;

(*c*) two persons, neither of whom shall be the Chief Inspector or an Inspector nominated by the Local Government, of whom one shall be a person qualified to represent the interests of persons employed in mines;

(*d*) two persons nominated by owners of mines or their representatives in such manner as may be prescribed.

(2) The chairman shall appoint a person to act as secretary to the Board.

(3) The Local Government may give directions as to the payment of travelling expenses incurred by the secretary or any member of any such Mining Board in the performance of his duty as such secretary or member.

Committees. 11. (1) Where under this Act any question relating to a mine is referred to a Committee, the Committee shall consist of—

(*a*) a chairman nominated by the Local Government or by such officer or authority as the Local Government may authorize in this behalf;

(*b*) a person nominated by the chairman and qualified by experience to dispose of the question referred to the Committee; and

(*c*) two persons of whom one shall be nominated by the owner, agent or manager of the mine concerned, and the other shall be nominated by the Local Government to represent the interests of the persons employed in the mine.

(2) No Inspector or person employed in or in the management of any mine concerned shall serve as chairman or member of a Committee appointed under this section.

(3) Where an owner, agent or manager fails to exercise his power of nomination under clause (c) of sub-section (1), the Committee may, notwithstanding such failure, proceed to inquire into and dispose of the matter referred to it.

(4) The Committee shall hear and record such information as the Chief Inspector or the Inspector, or the owner, agent or manager of the mine concerned, may place before it, and shall intimate its decision to the Chief Inspector or the Inspector and to the owner, agent or manager of the mine, and shall report its decision to the Local Government.

(5) On receiving such report the Local Government shall pass orders in conformity therewith unless the Chief Inspector or the owner, agent or manager of the mine has lodged an objection to the decision of the Committee, in which case the Local Government may proceed to review such decision and to pass such orders in the matter as it may think fit. If an objection is lodged by the Chief Inspector, notice of the same shall forthwith be given to the owner, agent or manager of the mine.

(6) The Local Government may give directions as to the remuneration, if any, to be paid to the members of the Committee or any of them, and as to the payment of the expenses of the inquiry including such remuneration.

12. (1) Any Mining Board constituted under section 10 and any Committee constituted under section 11 may exercise such of the powers of an Inspector under this Act as it thinks necessary or expedient to exercise for the purpose of deciding or reporting upon any matter referred to it. Powers of Mining Boards.

(2) Every Mining Board constituted under section 10 and every Committee appointed under section 11 shall have the powers of a Civil Court under the Code of Civil
V of 1908. Procedure, 1908, for the purpose of enforcing the attendance of witnesses and compelling the production of documents and material objects; and every person required by any such Mining Board or Committee to furnish

information before it shall be deemed to be legally bound to do so within the meaning of section 176 of the Indian Penal Code. XLV of 1860.

Recovery of expenses.

13. The Local Government may direct that the expenses of any inquiry conducted by a Mining Board constituted under section 10 or by a Committee appointed under section 11 shall be borne in whole or in part by the owner or agent of the mine concerned, and the amount so directed to be paid may, on application by the Chief Inspector or an Inspector to a Magistrate having jurisdiction at the place where the mine is situated or where such owner or agent is for the time being resident, be recovered by the distress and sale of any movable property within the limits of the Magistrate's jurisdiction belonging to such owner or agent.

MINING OPERATIONS AND MANAGEMENT OF MINES.

Notice to be given of mining operations.

14. The owner, agent or manager of a mine shall, in the case of an existing mine within one month from the commencement of this Act, or, in the case of a new mine, within three months after the commencement of mining operations, give to the District Magistrate of the district in which the mine is situated notice in writing in such form and containing such particulars relating to the mine as may be prescribed.

Managers.

15. (1) Save as may be otherwise prescribed, every mine shall be under one manager who shall have the prescribed qualifications and shall be responsible for the control, management and direction of the mine, and the owner or agent of every mine shall appoint himself or some other person, having such qualifications, to be such manager.

(2) If any mine is worked without there being a manager for the mine as required by sub-section (1), the owner and agent shall each be deemed to have contravened the provisions of this section.

Duties and responsibilities of owners, agents and managers.

16. (1) The owner, agent and manager of every mine shall be responsible that all operations carried on in connexion therewith are conducted in accordance with the provisions of this Act and of the regulations, rules and by-laws and of any orders made thereunder.

(2) In the event of any contravention of any such provisions by any person whomsoever, the owner, agent and manager of the mine shall each be deemed also to be

guilty of such contravention unless he proves that he had taken all reasonable means, by publishing and to the best of his power enforcing those provisions, to prevent such contravention :

Provided that the owner or agent shall not be so deemed if he proves—

(*a*) that he was not in the habit of taking, and did not in respect of the matter in question take, any part in the management of the mine; and

(*b*) that he had made all the financial and other provisions necessary to enable the manager to carry out his duties; and

(*c*) that the offence was committed without his knowledge, consent or connivance.

(3) Save as hereinbefore provided, it shall not be a defence in any proceedings brought against an owner or agent of a mine under this section that a manager of the mine has been appointed in accordance with the provisions of this Act.

PROVISIONS AS TO HEALTH AND SAFETY.

Conservancy.

17. There shall be provided and maintained for every mine latrine and urinal accommodation of such kind and on such scale, and such supply of water fit for drinking, as may be prescribed.

Medical appliances.

18. At every mine in respect of which the Local Government may, by notification in the local official gazette, declare this section to apply, such supply of ambulances or stretchers, and of splints, bandages and other medical requirements, as may be prescribed, shall be kept ready at hand in a convenient place and in good and serviceable order.

Note.—The Local Government have declared that this section shall apply to all mines in which explosives are habitually used.

G.O. No. 1752, Development, dated 7th December 1925.

Powers of Inspectors when causes of danger not expressly provided against exist or when employment of persons is dangerous.

19. (1) If, in any respect which is not provided against by any express provision of this Act or of the regulations, rules or by-laws or of any orders made thereunder, it appears to the Chief Inspector or the Inspector that any mine, or any part thereof or any matter, thing or practice in or connected with the mine, or with the control, management or direction thereof, is dangerous to human life or safety, or defective so as to threaten,

or tend to, the bodily injury of any person, he may give notice in writing thereof to the owner, agent or manager of the mine, and shall state in the notice the particulars in which he considers the mine, or part thereof, or the matter, thing or practice, to be dangerous or defective and require the same to be remedied within such time as he may specify in the notice.

(2) If the Chief Inspector or an Inspector authorized in this behalf by general or special order in writing by the Chief Inspector is of opinion that there is urgent and immediate danger to the life or safety of any person employed in any mine or part thereof, he may, by an order in writing containing a statement of the grounds of his opinion, prohibit, until the danger is removed, the employment in or about the mine or part thereof of any person whose employment is not in his opinion reasonably necessary for the purpose of removing the danger.

(3) Where an order has been made under sub-section (2) by an Inspector, the owner, agent or manager of the mine may, within ten days after the receipt of the order, appeal against the same to the Chief Inspector who may confirm, modify or cancel the order.

(4) The Chief Inspector or the Inspector making a requisition under sub-section (1) or an order under sub-section (2), and the Chief Inspector making an order [other than an order of cancellation in appeal under sub-section (3)], shall forthwith report the same to the Local Government and shall inform the owner, agent or manager of the mine that such report has been so made.

(5) If the owner, agent or manager of the mine objects to a requisition made under sub-section (1) or to an order made by the Chief Inspector under sub-section (2), or sub-section (3), he may, within twenty days after the receipt of the notice containing the requisition or of the order or after the date of the decision of the appeal, as the case may be, send his objection in writing, stating the grounds thereof, to the Local Government, which shall refer the same to a Committee.

(6) Every requisition made under sub-section (1), or order made under sub-section (2), or sub-section (3) to which objection is made under sub-section (5), shall be complied with pending the receipt at the mine of the decision of the Committee:

Provided that the Committee may, on the application of the owner, agent or manager, suspend the operation of a requisition under sub-section (1) pending its decision on the objection.

(7) Nothing in this section shall affect the powers of a Magistrate under section 144 of the Code of Criminal V of 1898. Procedure, 1898.

20. When any accident occurs in or about a mine causing loss of life or serious bodily injury, or when an accidental explosion, ignition, outbreak of fire or irruption of water occurs in or about a mine, the owner, agent or manager of the mine shall give such notice of the occurrence to such authorities, and in such form, and within such time, as may be prescribed.

Notice to be given of accidents.

21. (1) When any accidental explosion, ignition, outbreak of fire or irruption of water or other accident has occurred in or about any mine, the Local Government, if it is of opinion that a formal inquiry into the causes of, and circumstances attending, the accident ought to be held, may appoint a competent person to hold such inquiry, and may also appoint any person or persons possessing legal or special knowledge to act as assessor or assessors in holding the inquiry.

Power of Government to appoint court of inquiry in cases of accidents.

(2) The person appointed to hold any such inquiry shall have all the powers of a Civil Court under the Code V of 1908. of Civil Procedure, 1908, for the purpose of enforcing the attendance of witnesses and compelling the production of documents and material objects; and every person required by such person as aforesaid to furnish any information shall be deemed to be legally bound to do so within the XLV of 1860. meaning of section 176 of the Indian Penal Code.

(3) Any person holding an inquiry under this section may exercise such of the powers of an Inspector under this Act as he may think it necessary or expedient to exercise for the purposes of the inquiry.

(4) The person holding an inquiry under this section shall make a report to the Local Government stating the causes of the accident and its circumstances, and adding any observations which he or any of the assessors may think fit to make.

Publication of reports.

22. The Local Government may cause any report submitted by a Committee under section 11 or by a court of inquiry under section 21 to be published at such time and in such manner as it may think fit.

HOURS AND LIMITATION OF EMPLOYMENT.

Hours of employment.

23. No person shall be employed in a mine—

(*a*) on more than six days in any one week,

(*b*) if he works above ground, for more than sixty hours in any one week,

(*c*) if he works below ground, for more than fifty-four hours in any one week.

Supervising staff.

24. Nothing in section 23 shall apply to persons who may by rules be defined to be persons holding positions of supervision or management or employed in a confidential capacity.

Exemption from provisions regarding employment.

25. In case of an emergency involving serious risk to the safety of the mine or of persons employed therein, the manager may, subject to the provisions of section 19, permit persons to be employed in contravention of section 23 on such work as may be necessary to protect the safety of the mine or of the persons employed therein:

Provided that, where such occasion arises, a record of the fact shall immediately be made by the manager and shall be placed before the Chief Inspector or the Inspector at his next inspection of the mine.

Children.

26. No child shall be employed in a mine, or be allowed to be present in any part of a mine which is below ground.

Disputes as to age.

27. (1) If any question arises between the Chief Inspector or the Inspector and the manager of any mine as to whether any person is a child, the question shall, in the absence of a certificate as to the age of such person granted in the prescribed manner, be referred by the Chief Inspector or the Inspector for decision to a qualified medical practitioner.

(2) Every certificate as to the age of a person which has been granted in the prescribed manner and any certificate granted by a qualified medical practitioner on a reference under sub-section (1) shall, for the purposes of this Act, be conclusive evidence as to the age of the person to whom it relates.

28. For every mine there shall be kept in the prescribed form and place a register of all persons employed in the mine, of their hours of work, of their days of rest, and of the nature of their respective employments. Register of employees.

REGULATIONS, RULES AND BY-LAWS.

29. The Governor-General in Council may, by notification in the *Gazette of India*, make regulations consistent with this Act for all or any of the following purposes, namely:— Power of Governor-General in Council to make regulations.

(*a*) for prescribing the qualifications to be required by a person for appointment as Chief Inspector or Inspector;

(*b*) for prescribing and regulating the duties and powers of the Chief Inspector and of Inspectors in regard to the inspection of mines under this Act;

(*c*) for prescribing the duties of owners, agents and managers of mines and of persons acting under them;

(*d*) for prescribing the qualifications of managers of mines and of persons acting under them;

(*e*) for regulating the manner of ascertaining, by examination or otherwise, the qualifications of managers of mines and persons acting under them, and the granting and renewal of certificates of competency;

(*f*) for fixing the fees, if any, to be paid in respect of such examinations and of the grant and renewal of such certificates;

(*g*) for determining the circumstances in which and the conditions subject to which it shall be lawful for more mines than one to be under a single manager, or for any mine or mines to be under a manager not having the prescribed qualifications;

(*h*) for providing for the making of inquiries into charges of misconduct or incompetency on the part of managers of mines and persons acting under them and for the suspension and cancellation of certificates of competency;

(*i*) for regulating, subject to the provisions of the IV of 1884. Indian Explosives Act, 1884, and of any rules made thereunder, the storage and use of explosives;

(*j*) for prohibiting, restricting or regulating the employment in mines or in any class of mines of women

either below ground or on particular kinds of labour which are attended by danger to the life, safety or health of such women;

(*k*) for providing for the safety of the persons employed in a mine, their means of entrance thereinto and exit therefrom, the number of shafts or outlets to be furnished, and the fencing of shafts, pits, outlets, pathways and subsidences;

(*l*) for providing for the safety of the roads and working places in mines, including the siting and maintenance of pillars and the maintenance of sufficient barriers between mine and mine;

(*m*) for providing for the ventilation of mines and the action to be taken in respect of dust and noxious gases;

(*n*) for providing for the care, and the regulation of the use, of all machinery and plant and of all electrical apparatus used for signalling purposes;

(*o*) for requiring and regulating the use of safety lamps in mines;

(*p*) for providing against dangers arising out of the accumulation of water in mines;

(*q*) for prescribing the notices of accidents and dangerous occurrences, and the notices, reports and returns of mineral output, persons employed and other matters provided for by regulations, to be furnished by owners, agents and managers of mines, and for prescribing the forms of such notices, returns and reports, the persons and authorities to whom they are to be furnished, the particulars to be contained in them, and the time within which they are to be submitted;

(*r*) for prescribing the plans to be kept by owners, agents and managers of mines and the manner and places in which such plans are to be kept for purposes of record;

(*s*) for regulating the procedure on the occurrence of accidents or accidental explosions or ignitions in or about mines;

(*t*) for prescribing the form of, and the particulars to be contained in, the notice to be given by the owner, agent or manager of a mine under section 14; and

(*u*) for prescribing the notice to be given by the owner, agent or manager of a mine before mining operations are commenced at or extended to any point

within fifty yards of any railway subject to the provisions of the Indian Railways Act, 1890, or of any public work or classes of public works which the Local Government may, by general or special order, specify in this behalf. IX of 1890.

Note.—The Local Government have ordered

(1) that this clause shall apply to the classes of public works specified in column (1) of the annexed schedule; and

(2) that the notice required to be given under this clause read with Regulation 10 of the Indian Metalliferous Mines Regulations, 1926, shall be given, in addition to the Chief Inspector mentioned in the said regulation, to the authority or each of the authorities, as the case may be, specified in column (2) of the said schedule against such class of public work.

SCHEDULE.

Classes of public works. (1)	Authorities to whom notice should be given. (2)
(i) Major irrigation works including reservoir canals, etc.	The Executive Engineer of the division in which the works are situated.
(ii) Minor irrigation works ..	The District Collector.
(iii) Municipal and local fund waterworks.	(*a*) The chairman of the municipality or the president of the local board concerned and (*b*) The District Collector.
(iv) Bridges, causeways or roads other than railway bridges or railway level-crossings.	(*a*) The chairman of the municipality or the president of the Local Board concerned and (*b*) The District Collector.
(v) Buildings and inhabited sites ..	(*a*) The District Collector; and (*b*) The chairman of the municipality or the president of the local board concerned.

G.O. No. 795, Development, dated 30th May 1927.
B.P. No 37, Press, dated 28th June 1927.

30. The Local Government may, subject to the control of the Governor-General in Council, by notification in the local official Gazette, make rules consistent with this Act for all or any of the following purposes, namely:— Power of Local Governments to make rules.

(*a*) for providing for the appointment of chairmen and members of Mining Boards, and for regulating the procedure of such Boards;

(*b*) for providing for the appointment of courts of inquiry under section 21, for regulating the procedure and powers of such courts, for the payment of travelling allowance to the members and for the recovery of the expenses of such courts from the manager, owner or agent of the mine concerned;

(*c*) for prescribing the scale of latrine and urinal accommodation to be provided at mines, the provision to

be made for the supply of drinking-water, the supply and maintenance of medical appliances and comforts, the formation and training of rescue brigades, and the training of men in ambulance work;

(*d*) for defining the persons who shall, for the purposes of section 24, be deemed to be persons holding positions of supervision or management or employed in a confidential capacity;

(*e*) for prohibiting the employment in mines of persons or any class of persons who have not been certified by a qualified medical practitioner to be more than thirteen years of age, and for prescribing the manner and the circumstances in which such certificates may be granted and revoked;

(*f*) for prescribing the form of register required by section 28;

(*g*) for prescribing abstracts of this Act and of the regulations and rules and the vernacular in which the abstracts and by-laws shall be posted as required by sections 32 and 33;

(*h*) for requiring the fencing of any mine or part of a mine, whether the same is being worked or not, where such fencing is necessary for the protection of the public;

(*i*) for the protection from injury, in respect of any mine when the workings are discontinued, of property vested in His Majesty or any local authority or railway company as defined in the Indian Railways Act, 1890; IX of 1890.

(*j*) for requiring notices, returns and reports in connexion with any matters dealt with by rules to be furnished by owners, agents and managers of mines, and for prescribing the forms of such notices, returns and reports, the persons and authorities to whom they are to be furnished, the particulars to be contained in them, and the times within which they are to be submitted; and

(*k*) generally to provide for any matter not provided for by this Act or the regulations, provision for which is required in order to give effect to this Act.

Prior publication of regulations and rules.

31. (1) The power to make regulations and rules conferred by sections 29 and 30 is subject to the condition of the regulations and rules being made after previous publication.

(2) The date to be specified in accordance with clause (3) of section 23 of the General Clauses Act, 1897, as that after which a draft of regulations or rules proposed to be made will be taken under consideration, shall not be less than three months from the date on which the draft of the proposed regulations or rules is published for general information.

X of 1897.

(3) Before the draft of any regulation or rule is published under this section it shall be referred in the case of a regulation to every Mining Board constituted in Board constituted in the province; and the regulation or rule shall not be so published until each such Board has had a reasonable opportunity of reporting as to the expediency of making the same and as to the suitability of its provisions.

(4) Regulations and rules shall be published in the *Gazette of India* and the local official Gazette, respectively, and, on such publication, shall have effect as if enacted in this Act.

By-laws.

32. (1) The owner, agent or manager of a mine may, and shall, if called upon to do so by the Chief Inspector or Inspector, frame and submit to the Chief Inspector or Inspector a draft of such by-laws, not being inconsistent with this Act or any regulations or rules for the time being in force, for the control and guidance of the persons acting in the management of, or employed in, the mine as such owner, agent or manager may deem necessary to prevent accidents and provide for the safety, convenience and discipline of the persons employed in the mine.

(2) If any such owner, agent or manager—

(*a*) fails to submit within two months a draft of by-laws after being called upon to do so by the Chief Inspector or Inspector, or

(*b*) submits a draft of by-laws which is not in the opinion of the Chief Inspector or Inspector sufficient, the Chief Inspector or Inspector may—

(*i*) propose a draft of such by-laws as appear to him to be sufficient, or

(*ii*) propose such amendments in any draft submitted to him by the owner, agent or manager as will, in his opinion, render it sufficient,

and shall send such draft by-laws or draft amendments to the owner, agent or manager, as the case may be, for consideration.

(3) If within a period of two months from the date on which any draft by-laws or draft amendments are sent by the Chief Inspector or Inspector to the owner, agent or manager under the provisions of sub-section (2), the Chief Inspector or Inspector and the owner, agent or manager are unable to agree as to the terms of the by-laws to be made under sub-section (1), the Chief Inspector or Inspector shall refer the draft by-laws for settlement to the Mining Board, or, where there is no Mining Board, to such officer or authority as the Local Government may, by general or special order, appoint in this behalf.

(4) (*a*) When such draft by-laws have been agreed to by the owner, agent or manager and the Chief Inspector or Inspector, or, when they are unable to agree, have been settled by the Mining Board or such officer or authority as aforesaid, a copy of the draft by-laws shall be sent by the Chief Inspector or Inspector to the Local Government for approval.

(*b*) The Local Government may make such modifications of the draft by-laws as it thinks fit.

(*c*) Before the Local Government approves the draft by-laws, whether with or without modifications, there shall be published, in such manner as the Local Government may think best adapted for informing the persons affected, notice of the proposal to make the by-laws and of the place where copies of the draft by-laws may be obtained, and of the time (which shall not be less than thirty days) within which any objections with reference to the draft by-laws, made by or on behalf of persons affected, should be sent to the Local Government.

(*d*) Every objection shall be in writing and shall state—

(*i*) the specific grounds of objections and

(*ii*) the omissions, additions or modifications asked for.

(*e*) The Local Government shall consider any objection made within the required time by or on behalf of persons appearing to it to be affected, and may approve the by-laws either in the form in which they were published or after making such amendments thereto as it thinks fit.

(5) The by-laws, when so approved by the Local Government, shall have effect as if enacted in this Act, and the owner, agent or manager of the mine shall cause a copy of the by-laws, in English and in such vernacular or vernaculars as may be prescribed, to be posted up in some conspicuous place at or near the mine, where the by-laws may be conveniently read or seen by the persons employed; and, as often as the same become defaced, obliterated or destroyed, shall cause them to be renewed with all reasonable despatch.

(6) The Local Government may, by order in writing, rescind, in whole or in part, any by-law so made, and thereupon such by-law shall cease to have effect accordingly.

Posting up of extracts from Act, regulations, etc

33. There shall be kept posted up at or near every mine in English and in such vernacular or vernaculars as may be prescribed, the prescribed abstracts of the Act and of the regulations and rules.

PENALTIES AND PROCEDURE.

Obstruction.

34. (1) Whoever obstructs the Chief Inspector, an Inspector or any person authorized under section 7 in the discharge of his duties under this Act, or refuses or wilfully neglects to afford the Chief Inspector, an Inspector or such person any reasonable facility for making any entry, inspection, examination or inquiry authorized by or under this Act in relation to any mine, shall be punishable with imprisonment for a term which may extend to three months, or with fine which may extend to five hundred rupees, or with both.

(2) Whoever refuses to produce on the demand of the Chief Inspector or Inspector any registers or other documents kept in pursuance of this Act, or prevents or attempts to prevent or does anything which he has reason to believe to be likely to prevent, any person from appearing before or being examined by an inspecting officer acting in pursuance of his duties under this Act, shall be punishable with fine which may extend to three hundred rupees.

Falsification of records, etc.

35. Whoever—

(a) counterfeits, or knowingly makes a false statement in, any certificate, or any official copy of a certificate, granted under this Act, or

(b) knowingly uses as true any such counterfeit or false certificate, or

(c) makes or produces or uses any false declaration, statement or evidence knowing the same to be false, for the purpose of obtaining for himself or for any other person a certificate, or the renewal of a certificate, under this Act, or any employment in a mine, or

(d) falsifies any plan or register or record the maintenance of which is required by or under this Act, or

(e) makes, gives or delivers any plan, return, notice, record or report containing a statement, entry or detail which is not to the best of his knowledge or belief true,

shall be punishable with imprisonment for a term which may extend to three months, or with fine which may extend to five hundred rupees, or with both.

Omission to furnish plans, etc.

36. Any person who, without reasonable excuse the burden of proving which shall lie upon him, omits to make or furnish in the prescribed form or manner or at or within the prescribed time any plan, return, notice, register, record or report required by or under this Act to be made or furnished shall be punishable with fine which may extend to two hundred rupees.

Contravention of provisions regarding employment of labour.

37. Whoever, save as permitted by section 25, contravenes any provision of this Act or of any regulation, rule or by-law or of any order made thereunder prohibiting, restricting or regulating the employment or presence of persons in or about a mine, shall be punishable with fine which may extend to five hundred rupees.

Notice of accidents.

38. Whoever, in contravention of the provisions of section 20, fails to give notice of any accidental occurrence shall, if the occurrence results in serious bodily injury, be punishable with fine which may extend to five hundred rupees, or, if the occurrence results in loss of life, be punishable with imprisonment which may extend to three months or with fine which may extend to five hundred rupees, or with both.

Disobedience of orders.

39. Whoever contravenes any provision of this Act or of any regulation, rule or by-law or of any order made thereunder for the contravention of which no penalty is hereinbefore provided shall be punishable with fine which may extend to one thousand rupees; and, in the case of a continuing contravention, with a further fine which may extend to one hundred rupees for every

day on which the offender is proved to have persisted in the contravention after the date of the first conviction.

40. (1) Notwithstanding anything hereinbefore contained, whoever contravenes any provision of this Act or of any regulation, rule or by-law or of any order made thereunder, shall be punishable, if such contravention results in loss of life, with imprisonment which may extend to one year, or with fine which may extend to two thousand rupees, or with both; or, if such contravention results in serious bodily injury, with imprisonment which may extend to six months, or with fine which may extend to one thousand rupees, or with both; or, if such contravention otherwise causes injury or danger to workers or other persons in or about the mine, with imprisonment which may extend to one month, or with fine which may extend to five hundred rupees, or with both. **Contravention of law with dangerous results.**

(2) Where a person having been convicted under this section is again convicted thereunder, he shall be punishable with double the punishment provided by sub-section (1).

(3) Any Court imposing, or confirming in appeal, revision or otherwise, a sentence of fine passed under this section may, when passing judgment, order the whole or any part of the fine recovered to be paid as compensation to the person injured, or, in the case of his death, to his legal representative:

Provided that, if the fine is imposed in a case which is subject to appeal, no such payment shall be made before the period allowed for presenting the appeal has elapsed, or, if an appeal has been presented, before the decision of the appeal.

41. No prosecution shall be instituted against any owner, agent or manager for any offence under this Act except at the instance of the Chief Inspector or of the District Magistrate or of an Inspector authorized in this behalf by general or special order in writing by the Chief Inspector. **Prosecution of owner, agent or manager.**

42. No Court shall take cognizance of any offence under this Act unless complaint thereof has been made within six months of the date on which the offence is alleged to have been committed. **Limitation of prosecutions.**

Cognizance of offences.

43. No Court inferior to that of a Presidency Magistrate or Magistrate of the first class shall try any offence under this Act which is alleged to have been committed by any owner, agent or manager of a mine or any offence which is by this Act made punishable with imprisonment.

Reference to Mining Board or Committee in lieu of prosecution in certain cases.

44. (1) If the Court trying any case instituted at the instance of the Chief Inspector or of the District Magistrate or of an Inspector under this Act is of opinion that the case is one which should, in lieu of a prosecution, be referred to a Mining Board or a Committee, it may stay the criminal proceedings, and report the matter to the Local Government with a view to such reference being made.

(2) On receipt of a report under sub-section (1), the Local Government may refer the case to a Mining Board or a Committee, or may direct the Court to proceed with the trial.

MISCELLANEOUS.

Decision of question whether a mine is under this Act.

45. If any question arises as to whether any excavation or working is a mine within the meaning of this Act, the Local Government may decide the question, and a certificate signed by a Secretary to the Local Government shall be conclusive on the point.

Power to exempt from operation of Act.

46. (1) The Governor-General in Council may, by notification in the *Gazette of India*, exempt any local area or any mine or group or class of mines or any part of a mine or any class of persons from the operation of all or any specified provisions of this Act:

Provided that no local area or mine or group or class of mines shall be exempted from the provisions of section 26 unless it is also exempted from the operation of all the other provisions of this Act.

(2) On the occurrence of any public emergency, the Local Government may, by an order in writing, confer any exemption which might be conferred by the Governor-General in Council under sub-section (1). When such an order is made, a copy thereof shall forthwith be sent to the Governor-General in Council.

Note.—In exercise of the powers conferred by sub-section (1) of this section, the Governor-General in Council has been pleased to exempt the mines, groups of mines, classes of mines and parts of mines specified in the first column of

the annexed schedule from the operation of such provisions of this Act as are specified in the corresponding entry in the second column thereof.

SCHEDULE.

1. Mines of kankar murum, laterite, gravel, sand, clay (not including kaolin, china clay or white clay), fire-clay *, ochre,* stone, earth, fuller's earth, bauxite, slate and limestone. Provided that the depth of the excavation measured from the level of the adjacent ground nowhere exceeds 20 feet and that not more than fifty persons are employed at any one time in or about the mine : Provided further that this exemption shall not apply to— (*a*) Slate mines in the Province of the Punjab, and in the Monghyr district of the Province of Bihar and Orissa. (*b*) Limestone mines in the districts of Shahabad and Jubbulpore. * (*c*) The Danapal ari fire-clay mine situate in Bonjamuri village in the Asansol subdivision of the Burdwan district.*	All.
2. Borings and oil wells	All.
3. Mines or parts of mines in which excavation is being carried out for prospecting purposes only and not for the purpose of obtaining minerals for use or sale : Provided that— (*i*) not more than twenty persons are employed in or about such excavation ; (*ii*) no part of the excavation extends beneath the superjacent ground ; and (*iii*) the depth of the excavation measured from the level of the adjacent ground nowhere exceeds 20 feet or, in the case of an excavation for coal, 50 feet	All.
* 3-A. (*a*) Iron-ore mines worked without mechanical power, the whole of the ore from which is supplied locally to village smelters and blacksmiths.	All. *
4. The following mines in the North-West Frontier Province, namely :—	
(*i*) Salt mines in the Kohat district	All.
(*ii*) Carbonaceous clay pits in the Hazara district ..	All
5. The following mines in the Province of Burma, namely :—	
(*i*) Steatite mines in the Kyaukpyu, † Chin Hills, and Minbu districts and the Pakokku Hill Tracts, † and native precious stone mines in the Katha district.	All.
(*ii*) All mines in the Federated Shan States, and such mines in the Tavoy and Mergui districts as are worked under the tribute system.	The provisions contained in sections 23 and 28.
(*iii*) The ore-dressing plant of the Burma Corporation, Limited, at Namtu, Northern Shan States.	All.
6. The following mines in the Province of Bihar and Orissa, namely :—	
(*i*) The coke factory of the Burrakur Coal Company, Limited, at Loyabad in the Manbhum district.	All.
(*ii*) The coke factory of the Barari Coke Company, Limited, at Kendwadih in the Manbhum district.	All.
(*iii*) The coke factory of the Eastern Coal Company, Limited, at Bhowra in the Manbhum district.	All.
(*iv*) The coke factory of the Lodna Colliery Company, Limited, at Lodna in the Manbhum district.	All.
(*v*) The coke factory of the East Indian Railway Company, Limited, at Giridih in the Hazaribagh district.	All.
* (*vi*) Open excavations for coal in the Rajmahal coal fields in the district of the Santhal Parganas, provided that not more than 20 persons are employed in or about the mine at any one time.	All. *

* G.O. Mis. No. 2050, Development, dated 1st December 1927—B.P. Mis No. 3787, dated 13th December 1927.

† G.O. Mis. No. 429, Development, dated 9th March 1928—B.P. Mis. No. 902, dated 13th March 1928

7. The following mines in the United Provinces :—

(i) Stone quarry hill Tendua Nos. 37/1, 38/1, 38/4, 38/8, 29/3 and 32/1 at village Bargeh in the Mirzapur district. All.

(ii) Stone quarry hill Darhia Nos. 343/3, 50, 181 and 182 at village Baragaun in the Mirzapur district. All.

8. The following mines in the Presidency of Bombay :—

(i) Kharkhada stone quarry in the Kaira district .. All.

G.O. No. 35, Development, dated 7th January 1927—B.P. No. 7, Press, dated 31st January 1927.

Power to alter or rescind orders.

47. The Governor-General in Council and every Local Government may reverse or modify any order passed under this Act by any authority subject to his or its control, as the case may be.

Application of Act to Crown mines.

48. This Act shall apply to mines belonging to the Crown.

Saving.

49. No suit, prosecution or other legal proceeding whatever shall lie against any person for anything which is in good faith done or intended to be done under this Act.

Repeals.

50. On and from the commencement of this Act, the enactments mentioned in the Schedule shall be repealed to the extent specified in the fourth column thereof.

THE SCHEDULE.

ENACTMENTS REPEALED.

[*See section* 50.]

Year.	No.	Short title.	Extent of repeal.
1901	VIII.	The Indian Mines Act, 1901..	The whole.
1914	IV.	The Decentralization Act, 1914.	So much of the Schedule as relates to the Indian Mines Act, 1901.
1914	X.	The Repealing and Amending Act, 1914.	So much of the Second Schedule as relates to the Indian Mines Act, 1901.

CHAPTER X.—RULES MADE BY THE LOCAL GOVERNMENT UNDER THE ACT.

RULES FOR MINES OTHER THAN COAL MINES.

Sanitary and Health Provisions.

1. At every mine a sufficient supply of wholesome drinking water shall be provided on the surface and, if the Local Government so directs in the case of any mine or class of mines, also below ground at points reasonably accessible to the persons employed. Drinking water shall in all cases be supplied to employees free of cost.

2. At every mine where the Chief Inspector so directs arrangements shall be made for keeping all the underground workings and roads clean from *excreta*, and a sweeper or sweepers shall be appointed for the purpose.

3. At every mine latrine and urinal accommodation shall be provided on the surface and, if the Local Government so directs in the case of any mine or class of mines, in the underground workings of the mine, and, in the case of latrines, the accommodation shall be not less than one seat per 50 employees:

Provided that the Local Government may require that in lieu of latrines or urinals a certain area or areas may be marked off on the surface of the ground for use for this purpose.

4. Every latrine erected on the surface for the use of the work-people of a mine shall be so partitioned off as to secure privacy, and, if a latrine intended for the use of one sex adjoins a latrine intended for the use of the other sex, the approaches shall be separate.

5. All latrines in or about a mine shall be kept in a sanitary condition. Receptacles shall be cleaned daily, and tarred inside and out at least once a year.

Ambulance and First-aid Work.

6. It shall be the duty of the owner, agent, and manager of a mine to see that adequate arrangements are made for the training of men in ambulance work.

7. In every mine in which fifty persons or more are employed underground during any period of 24 hours, one or more of the persons employed according to the subjoined scale shall be trained in ambulance work to the standard of St. John's First-Aid Certificate :—

Where the number of persons employed underground during any period of 24 hours—

does not exceed 100, not less than one person,

exceeds 100 but does not exceed 200, not less than two persons,

exceeds 200 but does not exceed 300, not less than three persons,

exceeds 300 but does not exceed 400, not less than four persons,

exceeds 400 but does not exceed 500, not less than five persons,

exceeds 500, one person for every completed hundred of persons employed:

Provided that this rule shall not come into force until the 1st day of July 1927.

8. In or at every mine in respect of which section 18 of the Act applies there shall be provided and kept in good condition and ready for immediate use at a convenient place on the surface and also if the Chief Inspector or an Inspector so directs in the case of any mine underground—

(a) a suitably constructed stretcher or stretchers, and

(b) a box or boxes containing a sufficient supply of suitable splints and bandages, adhesive plaster, boric vaselene, cotton, wool and tincture of iodine or other suitable antiseptic solution.

Note.—The Governor in Council has declared, under section 18 of the Act, that the said section shall apply to all mines in which explosives are habitually used—vide Notification in G.O No. 1752, dated 7th December 1925.

REGISTRATION OF WORK-PEOPLE.

9. The register of all persons employed in the mine, of their hours of work, of their days of rest, and of the nature of their respective employments as required by section 28 of the Act shall be maintained in the form shown in Schedule A.

10. For the purposes of section 23 (*a*) read with section 23 (*c*) of the Act, all work of persons employed below ground shall be reckoned from the time such persons leave the surface of the mine to the time at which they finally return thereto at the end of the period of employment.

11. The following persons shall be deemed to be persons holding positions of supervision, or management or employed in a confidential capacity within the meaning of section 24 of the Act:—

(*a*) any official in charge of any mine or part of a mine;

(*b*) mechanical engineers or engine-wrights or electricians;

(*c*) surveyors.

Safety Provisions.

12. Any place in or about an excavation which is dangerous shall be made safe or shall be kept securely fenced. Should any question arise as to whether a place is dangerous or not, the opinion of the Inspector or, where there is no Inspector appointed under the Act, of the District Magistrate shall be conclusive on the point.

13. Where an excavation, which is more than ten feet deep and has been formed as the result of any mining operation, extends within fifty feet of a public road or dwelling house or of property vested in His Majesty or any local authority or railway company as defined in the Indian Railways Act, 1890, or of an inhabited village, substantial fencing shall be erected and maintained around the excavation adjacent to the road or dwelling.

14. Where as a result of mining operations a subsidence of the surface has taken place or is likely to take place, and persons are likely to be endangered thereby, the dangerous area shall be kept fenced on the surface.

15. In the case of any mine which is abandoned or the working of which is discontinued, the owner, agent or manager shall be bound, before the mine is finally abandoned, or immediately after the working thereof has been discontinued, to cause the top or entrance of every shaft and opening into the mine to be fenced by a structure of a permanent character sufficient to prevent persons inadvertently falling into or entering the shafts or openings.

16. If the owner, agent or manager of any mine intends to commence or extend any mining operations under his control at or to any point within fifty yards of any inhabited village or other building, etc., which have not been classed as public works by the Local Government under clause (*u*) of section 29 of the Act, he shall, not less than sixty days before commencing to carry out his intention, give to the District Magistrate concerned and to the Chief Inspector of Mines notice in writing of such intention.

17. If the operations in respect of which notice is given under rule 16 are not commenced within twelve months from the expiry of the period of sixty days therein referred to, the notice shall be held to have expired, and the provisions of that rule shall apply as if no such notice had been given.

18. The notice to be given under rule 16 shall specify the position of the workings of the mine in relation to the inhabited village or other buildings, etc., in question, the manner in which it is proposed to carry out the intended new operations, the limits to which it is proposed to carry the said operations, and whether the operations are actually in progress, and shall include a plan showing the existing and the intended mining operations in so far as they affect the inhabited village or other buildings, etc., in question.

MISCELLANEOUS.

19. Sufficient materials and appliances shall be kept in stock for the proper carrying out of all necessary operations in a manner consonant with the provisions of the Act, regulations, rules and by-laws.

20. No intoxicating drink or drug shall be kept or consumed in or at a mine without the consent of the manager, and no person in a state of intoxication shall enter or be allowed to remain in or about a mine.

21. All plans and books which are required to be kept under the regulations, these rules and the by-laws and the prescribed abstract of the Indian Mines Act, 1923, and of the regulations, rules and by-laws applicable to the mine shall be kept at an office or other building as near as conveniently may be to and used in connection with the working of the mine, and shall be produced on the request of the Chief Inspector or an Inspector, or any person authorized in that behalf by the Local Government.

22. The originals, or true copies, of all reports made in conformity with the Act or with the regulations, rules or by-laws shall be maintained at the mine for a period of twelve months after having been made.

23. No person shall pull down, injure or deface any abstract of the Indian Mines Act, 1923, or any copy of the regulations, rules or by-laws made thereunder which is posted up at any mine or any notice posted up in pursuance of the regulations of the mine.

SCHEDULE A.

Register of work-persons (*section* 28 *of the Indian Mines Act*, 1923).

Name of mine.__________

Name of owners.__________

Week commencing.__________

Name.	Father's name.	Caste.	Sex.	Nature of appointment.	Hours of work.		Days of work.	Days of rest.
					Time of commencement.	Time of end.	Times for each day.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)

[G.O. No. 2031, Development, dated 26th November 1924.]

CHAPTER XI.—REGULATIONS BY THE GOVERNMENT OF INDIA UNDER THE ACT.

NOTIFICATION OF THE GOVERNMENT OF INDIA, DEPARTMENT OF INDUSTRIES AND LABOUR, No. M.-1055 (2), DATED SIMLA, THE 8TH SEPTEMBER 1926.

In exercise of the powers conferred by section 29 of the Indian Mines Act, 1923 (IV of 1923) and in supersession of the rules published with the notifications by the Government of India in the Department of Commerce and Industry, No. 11793-103, dated the 30th December 1908, and No. 6436-152, dated the 2nd September 1911, and of all notifications amending those rules, the Governor-General in Council is pleased to make the following regulations, the same having been previously published as required by sub-section (1) of section 31 of the said Act, namely:—

REGULATIONS FOR ALL MINES EXCEPT COAL MINES.

1. (1) These regulations may be called the Indian Metalliferous Mines Regulations, 1926.

(2) They shall apply to every mine of whatever description other than a coal mine.

2. In these regulations, unless there is anything repugnant in the subject or context—

(a) " the Act " means the Indian Mines Act, 1923;

(b) " the District Magistrate," in relation to any mine, means the District Magistrate of the district in which the mine is situated:

Provided that in the case of a mine which is situated partly in one district and partly in another, the District Magistrate for the purposes of these regulations shall be the District Magistrate authorized in this behalf by the Local Government.

(c) " Form " means a Form as set out in the Schedule;

(*d*) "Schedule" means the Schedule to these regulations.

Returns, Notices and Records.

3. (1) On or before the 21st day of January in each year the owner, agent or manager of every mine shall forward to the District Magistrate and to the Chief Inspector annual returns in respect of the preceding year in the following forms :—

Mica Mines	In Forms I, II, III, IV, VI and VII.
Mines other than Mica Mines ...	In Forms I, II, III, IV, V, VI and VIII.

(2) If any mine is abandoned or the working of any mine has been discontinued over a period exceeding three months or if a change occurs in the ownership of any mine the returns required by sub-regulation (1) shall be submitted, within one month from the date of abandonment or change of ownership or within four months from the date of discontinnance :

Provided that the Chief Inspector may by order in writing extend the period for the submission of such returns up to any date not later than the twenty-first day of January in the year following that to which they relate :

Provided further that nothing in this sub-regulation shall be deemed to authorize the submission of any return later than the twenty-first day of January in the year following that to which it relates.

4. The notice required by section 14 of the Act shall be furnished in duplicate, and shall specify the name and situation of the mine, the names and addresses of the owner and the manager, and, in the case of a new mine, the date on which it was opened. The District Magistrate shall on receipt of the notice forward one copy thereof to the Chief Inspector.

5. When a mine has been abandoned, or the working thereof has been discontinued over a period exceeding two months, the owner of the mine shall, within one month after the abandonment or within seven days after the expiry of the said period, as the case may be, send to the Chief Inspector notice in writing

specifying the name and situation of the mine, the name and address of the owner, and the date and cause of the abandonment or discontinuance.

6. When a mine is reopened after abandonment or discontinuance, the owner, agent or manager shall, within one month after the date of the reopening, send to the District Magistrate notice in writing in duplicate, specifying the name and situation of the mine, the names and addresses of the owner and the manager, and the date of the reopening. The District Magistrate shall on receipt of the notice forward one copy thereof to the Chief Inspector.

7. When a change occurs in the name of, or in the ownership of, a mine, notice in writing of the change and of the date thereof shall be sent by the owner, agent or manager to the Chief Inspector within one month from the date of the change.

8. When any new appointment is made of an agent or manager of a mine, or any change of address of any agent or manager occurs, notice of the appointment or change and of the date thereof shall be sent by the owner, agent or manager to the Chief Inspector within one month from the date of the appointment or change.

9. When the ownership of a mine is transferred, the previous owner or his agent or manager shall make over to the new owner all plans, books and other records required to be kept under the Act, and all correspondence relevant to the working of the mine with the Department of Mines and other Government departments.

10. If the owner, agent or manager of any mine intends to conduct or extend any mining operations under his control at or to any point within fifty yards of any railway subject to the provisions of the Indian Railways Act, 1890, or of any public work in respect of which this regulation is applicable by reason of any general or special order of the Local Government under clause (*u*) of section 29 of the Act, he shall, not less than sixty days before commencing such operations, give notice of his intention to the Chief Inspector and also, in the case of a railway, to the Railway Administration concerned or, in the case of any such public work as aforesaid, to such authority as the Local Government may, by general or special order, direct.

11. If the operations in respect of which notice is given under regulation 10 are not commenced within twelve months from the expiry of the period of sixty days therein referred to, the notice shall be held to have lapsed and the provisions of that regulation shall apply as if no such notice had been given.

12. The notice to be given under regulation 10 shall specify the position of the workings of the mine in relation to the railway or public work in question, the manner in which it is proposed to carry out the intended new operations, and the limits to which it is proposed to carry the said operations, and shall include a plan showing the existing and the intended mining operations in so far as they affect the railway or public work in question.

13. When any accident occurs in or about a mine causing loss of life or serious bodily injury, or when an accidental explosion, ignition, outbreak of fire or irruption of water occurs in or about a mine, the owner, agent or manager of the mine shall forthwith inform the inspector by telephone or telegraph, and shall also, within twenty-four hours of the occurrence of such accident, explosion, ignition, outbreak or irruption send notice thereof in Form IX to the District Magistrate or to the Subdivisional Magistrate, who shall forward it to the Chief Inspector.

14. If death results from any injury already reported as serious under regulation 13, the owner, agent or manager of the mine shall, within twenty-four hours of his being informed of the death, send notice thereof to the District Magistrate or to the Subdivisional Magistrate, who shall forward it to the Chief Inspector.

Plans.

15. (1) The following provisions in respect of plans shall apply to all mines for gold, manganese, copper, lead, tin, and wolfram and to such other mines or classes of mines as the Governor General in Council may, by notification in the *Gazette of India*, specify.

(2) Nothing in this regulation shall be deemed to apply to any mine in which the workings do not extend under the super-jacent ground, or to any mine in which excavation is being made for prospecting purposes only.

Provided that the Chief Inspector may direct that this regulation shall apply to any such mine to such extent as he may think fit.

Note.—The Governor-General in Council has been pleased to direct that the provisions in respect of plans referred to in clause (1) of this regulation shall apply to the mica mines specified in the annexed schedule.

SCHEDULE.

Number.	District.	Name of mine.	Name of owner.
		Madras.	
1	Nilgiris ..	Sankara	A. H. Gaston.
2	Nellore ..	Patragunta	R. V. Krishnayya.
3	Do. ..	Kubera	V. Rajagopal Rao.
4	Do. ..	Mohana	Edgar Denham.
5	Do. ..	Gouri and Sankara ..	B. S. Mining Company.
6	Do. ..	Natiaja	I. Pattabhirami Reddi.
7	Do. ..	Pallimitta	Krishna Mining Company.
8	Do. ..	Shah	Do.
9	Do. ..	Lakshminarayana ..	R. P. Reddi and R. L. Reddi.
10	Do. ..	Chukka	I. P. Reddi.
11	Do. ..	Palamani	Tellabadu Company, Limited.
12	Do. ..	Tellabadu	Krishna Mining Company.
13	Do. ..	Nandalagunta	Do.
14	Do. ..	Kasiviswanath	B. Bangariah.
15	Do. ..	Kalyanarama	T. V. Subbayya Nayudu.
16	Do. ..	Krishnavilasam	Muhammad Mukdum Mohiuddin Sahib.
17	Do. ..	Sitarama	Madras Mica Company.
18	Do. ..	Kalichedu	Kalichedu Mining Company.
19	Do. ..	Bashire	Madras Mica Company.
20	Do. ..	Radha-Krishna	R. P. Reddi and R. L. Reddi.
21	Do. ..	Umamaheswara	K. Padma Nayudu and others.
22	Do. ..	Radha-Krishna	P. Rangappa Nayudu and others.
23	Do. ..	"F"	Tellabadu Company, Limited.
24	Do. ..	Bhavanisankar	V. Subba Reddi.
		Bihar and Orissa.	
1	Hazaribagh.	Bullock	F. F. Chrestien & Co.
2	Do.	Kendua	Do.
3	Do.	Hibru	Do.
4	Do.	Lumaria	Do.
5	Do.	Bura (74)	Do.
6	Do	Buria (Kaliktambi) .	Do.
7	Do.	Harraiya	Do.
8	Do.	Gamaria	Do.
9	Do.	Burra Murgha	Do.
10	Do.	Buria (Domchanch) ..	Do.
11	Do.	Charki No. 1	Do.
12	Do	Do. No. 2	Do.
13	Do.	Bindle	Do.
14	Do.	Pathlaiya	Do.
15	Do.	Tandaiya	Do.
16	Do.	Barasingha	Do.
17	Do.	Ghutia	Do.
18	Do.	Lady Rangi	Do.
19	Do.	Lambapahar	Do.

Bihar and Orissa—cont.

Number.	District.	Name of mine.	Name of owner.
20	Hazaribagh.	Surangi (Charki)	F. F. Chrestien & Co.
21	Do.	Reha	Do.
22	Do.	Singho Bahari	Do.
23	Do.	Surangi (Dhab)	Do.
24	Do.	Tharwa and Lagunwa ..	Tata Sons & Co
25	Do.	Tetturia	Do.
26	Do.	Kendua	Do.
27	Do.	Murulia	Do.
28	Do.	Thani	Do.
29	Do.	Shyam	Do.
30	Do.	Kari	Do.
31	Do.	Buria	Do.
32	Do.	Kaira	John Podger & Co.
33	Do.	Dhobiamaram	Sahana Cousins.
34	Do.	Do.	J. S Mull & Co.
35	Do.	Deora	Do.
36	Do.	Sugi	Do.
37	Do.	Bangathoa	I. C. Bhattacharjee.
38	Do.	Bharkighat	A. C. Bose & Co.
39	Do.	Nowoca	Bihar Mica Concern.
40	Do.	Kahuria	Chota Nagpur Mica Syndicate.
41	Do.	Bhuti	Do.
42	Do.	Kunjia	Do.
43	Do.	Lomchanchi	Do.
44	Do.	Buria	Brindaban Industrial Syndicate.
45	Do.	Tharragatti No. 10 ..	Do.
46	Do.	Jolamaran	Do.
47	Do.	Baroria	Do.
48	Do.	Sarola	Kodarama Bissenpur Mica Syndicate.
49	Do.	Charki	Do.
50	Do.	Monharia	Hazaribagh Mica Mining Co.
51	Do.	Segunia	Do.
52	Do	Sugi	Prayag Singh.
53	Do.	Pathlaiya	Tufani Singh.
54	Do.	Do.	Ganga Singh.
55	Do.	Hosonia	Raghabir Roy.
56	Do.	Chaprasee	Tekait Krishna Pd. Singh.
57	Gaya .	Bhanekhap	Ganpat Roy & Co.
58	Do. ..	Annapurna	Srikanta Lal.
59	Do. ..	Belkacho	K. K Mitter & Co.
60	Do. .	Lekhaiya	Do.
61	Do. ..	Bandaloria..	Do.
62	Do. .	Giadhar	Do
63	Monghyr ..	Ganda No. 1	Mohanta Dwarkianand Swami.

G.O. Mis. No. 2199, Dev., dated 22nd December 1927.

B P. Mis. No. 145, dated 16th January 1928.

16. The owner, agent or manager of every mine shall keep in the office at the mine an accurate plan and section or sections, properly inked in on durable paper, of the workings of the mine on a scale of not less than 100 feet to 1 inch, showing the workings up to a date not more than six months previously. The name of the mine and of its owner and the scale shall be shown on the plan and sections, and the magnetic meridian with date shall be

shown on the plan. The plans and sections shall also show all shafts, drives, crosscuts, winzes, rises, excavations (stoped ground), and any tunnels and passages connected therewith. They shall also show the boundaries of the underground leasehold, where possible, and all important surface features within the boundaries such as railways, roads, rivers, streams and reservoirs which overlie any part of the workings or any point within 600 feet of any part of the mine workings; also the general strike of the veins or mineral deposits, with their dips at different points, and the dislocations of the strata.

17. The owner, agent or manager of every mine shall, at any time on the request of the Chief Inspector or of any Inspector produce to him at the office at the mine such plans and sections, and also, on the like request, mark on such plans and sections the then state of the workings of the mine; and the Chief Inspector or Inspector shall be entitled to examine the plans and the sections, and for official purposes to make or have a copy made of any part thereof respectively.

18. Where any mine or any considerable part of a mine is abandoned, or the working thereof has been discontinued over a period exceeding one year, the person who was the owner of the mine at the time of the abandonment or discontinuance shall, within three months after the abandonment or within fifteen months after the discontinuance of working, as the case may be, send to the Chief Inspector accurate plans and sections of the workings of the mine up to the time of the abandonment or discontinuance, or a true and accurate copy of the same:

Provided that if a change of ownership occurs after the abandonment or discontinuance and before the expiry of the three months or the fifteen months aforesaid, as the case may be, such plans and sections shall be sent forthwith.

19. After the expiry of ten years from the date of abandonment or discontinuance of working in any mine or in any considerable part of a mine, or, where the consent of the owner of the mine for the time being has been obtained, prior to the expiry of the said period, the Chief Inspector may, on such conditions as he thinks fit to impose, permit any person having interest in the said mine or part of a mine to inspect the plan or section of

such mine or part of a mine sent to him in accordance with the provisions of regulation 18; and he may further, on such conditions as he thinks fit to impose, supply to any such person copies of the like plan or section.

Management.

20. For every mine a book, to be called the Inspection Book, shall be kept in which Inspectors may record their observations. The owner, agent or manager shall write or cause to be written at the commencement of the book—

(*a*) the name of the mine,

(*b*) the name and address of the owner of the mine and of the agent, if any,

(*c*) the name and address of the manager of the mine.

21. (1) The owner or agent of a mine shall appoint a competent person of not less than 21 years of age to be manager of the mine. If any question arises whether any person so appointed is competent to perform the duties of manager, the decision of the Chief Inspector shall be final.

(2) One person may be appointed manager of more mines than one, provided that the size of such mines and the distance between them is not so great as to preclude the proper and thorough performance by such manager of his duties in respect of each such mine. The decision of the Chief Inspector shall be final on any question arising out of this regulation.

(3) Where by reason of absence or for any other reason the manager is unable to perform the duties required of him by the Act, regulations, rules and by-laws, the owner, agent or manager shall authorize in writing a person whom he considers competent to act as manager of the mine:

Provided that—

(*a*) no such authority shall have effect for a period in excess of one month;

(*b*) the owner, agent or manager, as the case may be, shall send to the Chief Inspector with the least possible delay, a written notice intimating that such an authorization has been

made, and stating the reason for the authorization, the qualifications and experience of the person authorized and the dates of the commencement and ending of the authorization; and

(c) the Chief Inspector may by order in writing revoke any authority so granted, and such order shall be final.

(4) No person shall be appointed to carry out the inspection required by regulation 43 unless he has attained the age of 21 years and has had sufficient practical experience of the working of mines. If any question arises whether the person so appointed is competent to carry out the duties required of him, the decision of the Chief Inspector shall be final.

Shafts and Outlets.

22. Where any part of a mine is so situated that there is any danger whatever of an irruption of surface water into the mine adequate protection against such an irruption shall be provided and maintained.

23. (1) At every mine where more than 20 persons are employed underground, or where in the opinion of the Chief Inspector it is necessary, there shall be at least two shafts or outlets, not nearer to one another than 20 feet, affording separate means of ingress and egress available to all the persons employed in the mine.

(2) Proper arrangements shall be made for persons to descend to, and ascend from, the mine at each of such shafts or outlets. If apparatus is necessary, it shall be kept on the works belonging to the mine and shall be constantly available for use.

(3) The foregoing provisions of this regulation with respect to shafts and outlets shall not apply—

(*i*) while a shaft is being sunk or an outlet is being made;

(*ii*) to any working for the purpose of making a communication between two or more shafts or outlets.

(4) The Chief Inspector may exempt from the operation of this regulation, subject to such conditions as he may think fit to impose, any mine in the case of

which special difficulties exist which in his opinion make compliance with the provisions of this regulation not reasonably practicable.

Raising and Lowering Persons or Materials.

24. At every shaft or incline where persons or materials are lowered or raised by means of machinery the following provisions shall have effect, namely :—

(*a*) A single linked chain shall not be used for lowering or raising persons in any working shaft or plane, except for the short coupling chain attached to a cage, skip, wagon or bucket.

(*b*) Ropes used in raising and lowering persons and all cappings or sockets and shackles shall be of the best materials and kept in good condition. The working load shall at no time be more than one-sixth of the breaking load of the rope. A similar spare rope shall always be kept in reserve at mines where there is only one hoisting shaft.

(*c*) There shall be attached to every machine worked by mechanical power, and used for raising and lowering persons, one or more brakes of sufficient power by themselves to hold the cage, skip, wagon or bucket, when loaded, at any point in the shaft, and a proper indicator (in addition to any mark on the rope) showing to the person who works the machine the position of the cage, skip, wagon or bucket in the shaft; and if the drum is not on the crank shaft, there shall be an adequate brake on the drum shaft:

Provided that in the case of a shaft or winze not exceeding 100 feet in depth or a shaft or winze in course of sinking so much of this clause as requires an indicator shall not apply.

(*d*) Every apparatus on or in which persons ride in a working shaft shall be provided with a sufficient cover overhead, except—

(*i*) in that portion of a shaft which is being extended by sinking, or

(*ii*) where persons are employed at work in a shaft.

(*e*) Every working shaft used for the purpose of drawing mineral or for lowering or raising persons shall, if exceeding 150 feet in depth, be provided with proper

means of communicating distinct and definite signals from the bottom of the shaft, and from every entrance for the time being in use between the surface and the bottom of the shaft, to the surface, and from the surface to the bottom of the shaft and to every entrance for the time being in use between the surface and the bottom of the shaft. There shall also be proper means of transmitting distinct and definite signals from the top of every winding shaft to the winding engine. All signals shall be transmitted by mechanical or electrical means.

(*f*) (*i*) The first three or principal signals shall be :—

One rap or bell ...	... RAISE when engine at rest.
One rap or bell ...	... STOP when engine in motion.
Two raps or bells	... LOWER.
Three raps or bells	... MEN ready to ascend or descend.
Three raps or bells	... IN REPLY. Men may enter the cage or other conveyance :

Provided that an alternative code may be used where the written permission of the Chief Inspector has been obtained.

(ii) Any other signals shall be in addition to, and shall not interfere with, the foregoing.

(iii) A printed copy of the code of shaft signals shall be posted at the shaft top and at every inset, and also at the winding engine.

(*g*) Every working shaft used for lowering or raising persons by machinery, other than machinery operated by hand labour shall, if it exceeds 150 feet in depth, be provided with guides to within not less than 100 feet from the bottom of the shaft.

(*h*) Adequate stationary lights shall be provided and used during working hours—

(1) at all places where persons have to work under ground in the immediate vicinity of shaft,

(2) after dark at the tops of all working shafts and at all winding engines used for raising and lowering persons.

(i) There shall be on the drum of every machine used for lowering or raising persons such flanges, horns or other appliances as may be sufficient to prevent the rope from slipping. The rope shall be securely fastened to the drum, and there shall be at least two turns of the rope on the drum when the cage, skip, bucket or box is at the bottom of the shaft.

(j) Every cage shall be provided with catches or some other suitable contrivance to prevent tubs from falling out, and shall, if used for lowering or raising persons, be covered in completely at the top and closed in at the two sides in a manner sufficient to prevent persons or things from projecting beyond the sides, and shall be provided with suitable gates or other rigid fences and with a rigid hand bar fixed in a position where it can be easily reached by all persons in the cage.

(k) The manager, or a competent person or persons appointed by the manager for the purpose shall, once at least in every 24 hours, examine the state of the external parts of the machinery and of the head-gear, ropes, chains, cages, guides, and conductors in the shafts and other similar appliances of the mine which are in actual use, both under ground and above ground, and, if more than 20 persons are employed in the mine simultaneously, shall without delay write or cause to be written a full and accurate report of the result of such examination. Every such report shall be recorded in a paged book to be kept at the mine for the purpose, and shall be signed and dated by the person who made the examination.

25. No person shall get on or off a cage, skip, tub or bucket used for lowering or raising persons after the same has been set in motion, or leave it until it has reached the appointed stopping place; nor shall any person ride on the top or edge of any cage, skip, bucket or box except when engaged upon work in the shaft.

26. No person, when ascending or descending a shaft, shall take with him any tools or other bulky materials, save when engaged in repairing the shaft or when otherwise specially authorized by the manager:

Provided that, in the case of tools only, the manager may, by general order, permit the same to be carried.

27. No person shall ride in a shaft on, or against, a loaded cage, skip, bucket or box.

28. Every person, when at or about the top or the bottom of a shaft, shall obey the orders and directions of the shaft attendants on duty at the time.

29. Every windlass, whim or whip in use at a shaft or winze shall be provided with a stopper, lynch peg, or other reliable holder.

30. The bucket, skip or any wagon in the cage shall not be filled up to such a height that any of the contents can fall out, and the bottom of the cage shall be kept clean.

31. When tools, wood, etc., with ends projecting over the top of the cage; skip or bucket are being lowered or hoisted, the projecting ends shall be securely fastened to the rope or bow.

32. Not more than such number of persons as may be authorized by the manager shall be allowed to ride in the same cage, tub, skip or bucket at one time, and a notice specifying the authorized number shall be posted at the top of every shaft and at every inset in a shaft.

33. When the winding apparatus is not provided with some automatic contrivance to prevent overwinding, a point shall be fixed and marked on the indicator in such a way as to show when the cage or other conveyance is within a distance of twice the circumference of the drum from the completion of the wind; and when such cage or conveyance has reached such distance it shall not, if either it or the descending cage contains persons, be raised for the remaining distance at a speed exceeding three miles per hour.

34. In shafts exceeding 300 feet in depth, where persons are raised or lowered by machinery, suitable devices shall be fitted if, in the opinion of the Chief Inspector, such are required to provide against the overwinding of cages, skips or other conveyances or to safeguard persons liable to be injured in the case of an overwind.

35. At the top of every incline on which the haulage, not being endless rope or endless chain haulage, is worked by mechanical power or gravity, there shall be stop-blocks or other similar contrivances to prevent wagons from running away. Additional stop-blocks or runaway switches, or some other appliance for arresting

or diverting the descent of wagons in the event of a runaway, shall be fixed below the first stop-blocks at a greater distance than the length of a train of wagons. There shall also be provided and attached behind the ascending wagon or train of wagons, a backstay, drag or other suitable contrivance for preventing the wagon or wagons from running back.

36. Where wagons are moved by hand no person shall permit a wagon to run uncontrolled, and, if sprags are necessary, a sufficient number shall be provided by the manager.

37. No person shall ride upon any tub, truck or wagon either under ground or above ground without the permission of the manager.

Mine Workings.

38. The sides of open working shall be sloped, stepped or secured in such a manner as to prevent danger from falls of material.

39. When an open working is worked in steps, steps shall be of sufficient breadth in comparison with their height to secure safety.

40. In open workings, trees liable to fall, the overburden and all loose ground and material, shall be removed sufficiently far from the edge, or otherwise made secure, in order to prevent danger to persons employed in the mine.

41. The roofs and sides of all travelling roads and working places shall be made and kept secure.

42. Where the ground is not safe, all shafts in use shall be made secure with suitable timber-work or other means of support.

43. (1) A competent person or persons appointed for the purpose by the manager or underground manager shall inspect, at least once in every shift, every part of the mine in or through which any person has to work or pass, for the purpose of ascertaining the condition thereof as far as ventilation, roof, sides and general safety are concerned, and, if more than 20 persons are employed in the mine simultaneously, shall without delay write or cause to be written a full and accurate report of the result of such inspection in a book to be kept at the mine for the purpose, and shall sign and date his report.

(2) A competent person appointed by the manager for the purpose, shall, once at least in every week, examine the state of the shafts by which persons ascend or descend, and, if more than 20 persons are employed in the mine simultaneously, shall without delay write or cause to be written a full and accurate report of the result of the examination. Every such report shall be recorded in a paged book to be kept at the mine for the purpose, and shall be signed and dated by the person who made the examination.

44. Every place where work is carried on or where men are stationed or pass shall be placed under the charge of a competent person appointed by the manager or underground manager.

45. If a working place or travelling road is found to be unsafe, all persons shall be withdrawn immediately from the dangerous area and all access to such working place or travelling road, except for the purpose of removing the danger or saving life, shall be prevented by securely fencing the full width of all entrances to the place.

46. The top and all entrances between the top and bottom of shafts, winzes, shoots or sliding holes and any openings into a stope more than 10 feet deep below a drive and other dangerous openings, shall be provided with a permanent or removable barrier in order to prevent persons or things from falling into them. When a shaft, winze, rise or stope leads directly into a travelling road or place where persons are stationed at work, the traffic at such points shall be protected against danger from anything falling from above.

47. At every shaft station where it is necessary for persons to pass from one side of the shaft to the other, provision shall be made enabling them to do so without entering or crossing a winding compartment.

48. All ladders, ladderways, platforms, doors, fences and other appliances and things in use underground shall be maintained in proper repair. Temporary ladders, platforms or other means of climbing or keeping a footing while at work shall be provided in sinks, winzes, rises, stopes and other places where they are needed.

49. Where any working is approaching any place containing or likely to contain a dangerous accumulation of water, the working shall not exceed 6 feet in width or

height, and bore-holes shall be constantly kept at such a distance in advance of the face and at such angles from the working as is necessary to obviate the danger of a sudden breaking through of such water.

50. An adequate amount of ventilation shall be constantly produced in every mine to clear away smoke and to dilute and render harmless inflammable and noxious gases to such an extent that the working places of the shafts, levels, and workings of the mine, and the travelling roads to and from these working places shall be in a safe state for persons working or passing therein.

51. Underground workings and shafts, sumps and winzes, which have been in disuse for some time shall be examined before again being used in order to ascertain whether foul air or other dangerous gases have accumulated therein, and also to ascertain the condition of the roof and sides; and only such workmen as may be necessary to make such examination shall be allowed to proceed to such places until such places are certified to be in a safe state to work and travel in.

52. In any underground part of a mine where adequate stationary lights are not in use, every person shall carry a light.

53. No person shall work in any place other than a place in which he has been ordered to work by an official of the mine or by any person in whose charge he has been placed by an official of the mine.

Ladderways.

54. In ladder-shafts making an angle of 25 degrees or less with the vertical, platforms shall be provided at intervals not exceeding 35 feet. Ladders shall be placed so as to cover the openings in the platforms: provided that in cases where timber and supplies are handled, a portion of this opening may be to one side of the ladder and in the opposite corner of the platform. Except in respect of the lowest 30 feet of a sinking shaft, ladders shall be fixed at an inclination of not less than one foot horizontal for every 10 feet vertical: provided that where exceptional circumstances require they may, with the consent of an Inspector, be fixed at a steeper inclination.

55. In ladder-shafts where the slope is less than 65 degrees and more than 30 degrees with the horizontal, platforms shall be placed at intervals of not more than 55 feet along the underlie or slope of the shaft.

56. All platforms shall be securely fenced.

57. All ladders shall be securely fastened to the sides of timbering of the shaft.

58. All ladders shall project at least three feet above the shaft-top and above every platform, or strong holdfasts shall be provided at these places in convenient positions.

59. A ladderway, which is a compartment of a shaft used also for other purposes, shall be closed off from the other compartments to such an extent as to prevent injury to workmen passing up and down the ladderway.

60. Every ladderway-opening in any travelling road or place where men are stationed or pass shall be provided with a door or with a substantial fence.

61. No person shall carry or be permitted to carry any drill, tool or any loose material on a ladderway in a vertical or steeply inclined shaft or winze, except so far as may be necessary in executing repairs.

Provided that nothing in this regulation shall prevent a person from carrying tools on a ladderway to a stope.

Explosives.

62. The explosives provided for use in the mine shall be of good quality and, as far as can be practically known, in good condition, and only detonators of one strength and of sufficient power for every class of explosive used shall be kept for use in the same mine.

63. Explosives shall not be taken into or kept in a dwelling house, but only in a properly constructed magazine.

64. (1) Explosives shall not be stored underground in a mine except with the approval of an Inspector in writing, and in a magazine or magazines duly licensed in accordance with the provisions of rules made under the Indian Explosives Act, 1884.

(2) The manager shall appoint in writing a competent person or competent persons to be in charge of every magazine for the storage of explosives, and no

person shall be in charge of a magazine without such written authority.

(3) Explosives shall be issued only to competent persons appointed by the manager, or underground manager or foreman, and no unauthorized person shall have explosives in his possession. The names of such competent persons shall be registered in a book kept for the purpose.

(4) The person in charge of a magazine shall keep a correct record of the quantity of gunpowder and of authorized person, and a similar record of explosives and of detonators issued from the magazine to each authorized person, and a similar record of explosives returned to the magazine.

65. Underground magazines shall be placed at a sufficient distance from one another and from any portion of the mine, in which work is going on or which is used as a travelling road, to prevent the risk of injury to any person in the event of the explosion of the maximum amount of explosive stored.

66. The quantity of explosive which may be stored in an underground magazine shall not exceed the supply required for two working days in the mine in which the magazine is situated.

67. Detonators shall be kept in a securely locked box separate from any other explosive and no detonator shall be inserted into a priming cartridge until immediately before it is to be used:

Provided that, in the case of a wet working, priming cartridges may be prepared at the nearest convenient dry place adjacent to the working.

68. Every precaution shall be adopted to prevent the explosion or ignition of explosives stored in an underground magazine. The Chief Inspector may prescribe precautions to be adopted in addition to those required by the terms of the explosives licence.

69. No naked light shall be taken into an underground magazine or store.

70. Explosives shall not be sent down in the cage, skip or bucket unless there is a distinguishing mark attached to the cage, skip or bucket, or they are accompanied by a shot-firer or responsible person.

71. All blasting operations shall be conducted by, or under the personal direction of, duly competent persons, not less than 18 years of age, appointed by the manager or underground manager or foreman. The names of these persons shall be registered in a book to be kept for the purpose.

72. The number of shots fired, the quantity of explosives used and the number of shots (if any) which have misfired shall be recorded daily in a book to be kept for the purpose.

73. All unused explosives shall be returned to the magazine without delay. Such returned explosives shall be re-issued before fresh stock is used.

74. No explosives shall be taken into a mine except in a secure case, canister or bag containing not more than five pounds each, and a person shall not have in use or keep for use, at one time in any one place within the mine, more than one such case, canister or bag. The place in the mine at which any such case, canister or bag is in use, or is kept for use, shall, unless solid ground directly intervenes, not be less than thirty feet from a place at which any other such case, canister or bag is in use or kept for use:

Provided that the Chief Inspector may, in special cases and by order in writing, permit, subject to such limitations as he may prescribe, the use at one time in one place of more than one of such cases, canisters or bags:

Provided further that nothing in this regulation shall prohibit the conveyance of larger quantities of explosives for supplying an underground magazine.

75. When explosives are being carried on a ladder, each case, canister or bag shall be securely fastened to the person carrying it.

76. In the process of charging or stemming a hole no person shall use an iron or steel tool, scraper or tamping rod, nor shall he use undue force in pressing the explosive into the hole or strike it when at the bottom of the hole.

77. In any underground working place only those holes which are to be fired in the next round shall be charged, and the fuses in all holes which have been charged shall be ignited or detonated together.

78. Before a shot is fired in an underground working place due warning shall be given to persons in the vicinity, and every entrance to the place where a shot is about to be fired shall be guarded so as to prevent any person, not having received warning, from placing himself in dangerous proximity to the shot.

79. (1) When two underground working places have approached to within 10 feet of one another, no blasting shall be done in any one of such workings unless the workmen have been withdrawn from the other working, and the same has been fenced.

Explanation.—For the purpose of this sub-regulation any place to which workmen have lawful access shall be deemed to be a working place.

(2) In open workings blasting shall not be commenced until such warning as will prevent danger to the persons working in the mine and in its vicinity has been given by an efficient system of signals or by other means arranged by the manager. Notice shall similarly be given as soon as blasting is finished.

80. When shots are fired, the number of reports shall be counted by at least two persons. The lowest count shall be taken to be correct. Unless it is certain that all the shots have exploded, no person shall re-enter such working place until 30 minutes after blasting, unless the shot has been fired by electrical means when this interval may be reduced to not less than ten minutes after the source of the electricity has been disconnected from the cable, and the place becomes clear of fumes. If the charge is known to have burnt away without exploding no person shall re-enter the working place for an hour.

81. After a shot has been fired in an underground working place the person who fired the shot or a competent person appointed in writing by the manager of the mine shall, before any other person enters the place, make a careful examination and with his assistants make the place safe. No other person shall enter the place until the examination has been made and the place has been declared to be safe in all respects.

82. No person shall bore out a hole that has once been charged or attempt to withdraw a charge either before firing or after a misfire, or deepen or tamper with empty holes or sockets left after blasting.

83. When a misfire occurs, a portion of the tamping may be sludged out with compressed air or water under pressure, but no kind of tool shall be used for this purpose. The hole shall thereafter be reprimed and fired.

84. No person shall drill or cause or permit to be drilled any hole within 12 inches of a misfired hole, and care shall be taken to drill the new hole in such a direction that there is no danger of touching the unexploded charge. The new hole shall be bored in the presence of an authorized shot-firer, and he shall be present during operations undertaken for the removal of debris lying within six feet of the misfired hole. A careful search amongst the debris shall be made for cartridges and detonators, if any.

85. If a place where a misfire has occurred is temporarily vacated a man shall be posted to warn all persons in the neighbourhood of the fact, or the place shall be fenced so as to prevent access. In open workings it will be sufficient to mark the place of misfire with a red flag.

Miscellaneous.

86. (1) Every flywheel and all exposed and dangerous parts of the machinery used in and about a mine shall be kept securely fenced.

(2) Where it is necessary to prevent danger to the public, every tank or reservoir shall be securely fenced.

87. Efficient guards shall be provided for such parts of any machinery and any electrical conductors as may be a source of danger.

88. If any person, when in charge of any machinery, apparatus or appliance used in or about a mine, observes any defect or dangerous flaw therein, he shall immediately report the fact to the manager, under-manager or engine-wright.

89. Every person shall strictly comply with all lawful orders issued by the manager or such other official as may be empowered by the manager to issue the same.

90. No person occupying any position of trust in or about a mine shall depute another person to do his work without the sanction of the official to whom he is subordinate; and no such person shall absent himself without

having previously obtained permission from such official for the term of his absence or without having been relieved by a competent person.

91. No person shall negligently or wilfully do anything likely to endanger life or limb in the mine, or negligently or wilfully omit to do anything necessary for the safety of the mine or the persons employed therein.

92. No person shall damage, destroy or improperly interfere with anything provided for or used in the working of the mine.

93. No person shall remove or pass through any fence, or remove or pass any danger-signal unless so specially authorized by the manager or an official empowered by the manager in that behalf.

94. No person occupying any position of trust in or about a mine shall sleep whilst on duty.

95. If any person required by these regulations or by any rule or by-law made under the Act to make any report is unable to write, he shall be present when his report is written for him, and shall have it read over to him, and shall attach his thumb mark to it. The person writing the report shall also sign his name at the end together with a statement that it has been read over to the person for whom it was written.

96. Whenever the circumstances at any mine or part of a mine are such as to render any provision of these regulations not reasonably applicable to such mine or part of such mine the Chief Inspector may, at his discretion, grant exemption from such provision under such conditions as he may think fit.

THE SCHEDULE.

Form I.

(See Regulation 3)

Annual return for the year ending on the 31st December 19

1. Name of mine ....

2. Postal address of mine ....

3. Date of opening ....

4. Date of closing (if closed) ....

5. Situation of mine { District.. Province ....

6. { Name of owner.. Postal address of owner..

7. { Name of Managing Agents (if any) .... Postal address of Managing Agents (if any)........

8. { Name of Agent (if any), as defined in Section 3 (*a*) of the Indian Mines Act, 1923 .... *Postal address of Agent* ....

9. { Name of Manager .... Postal address of Manager ....

10. Name of mineral worked ....

11. Means by which the mineral is raised from the mine, i.e., hand labour, mechanical or electrical power ....

FORM II.

(See Regulation 3.)

Persons employed during the year ending on 31st December 19 , and wages paid for work done in December 19 .

FORM II.

(See Regulation 8.)

Persons employed during the year ending on 31st December 19 , and wages paid for work done in December 19 .

Classification. (1)	Aggregate number of daily attendances, **during the year** of persons permanently and temporarily employed. (2)	Number of days worked **during the year.** (3)	Daily average number of persons employed as calculated by dividing the aggregate number of attendances by the number of days worked **during the year.** (4)	Average hours worked per week **during the year.** (5)	Aggregate number of daily attendances **in December.** (6)	Total amount paid in wages for work done **in December.** (7)	Average daily earnings **in December** as calculated by dividing the amount in column (7) by the number of attendances in column (6). (8)
A. *Underground* (i.e., in places lying beneath the super-jacent ground).							
I. Males—							
Foremen and mates							
Miners							
Skilled labour not included above.							
Unskilled labour not included above.							
Total (males) ..							
II. Females							
B. *Open working* [i.e., in workings of the mine (including quarries) which are not situated beneath the super-jacent ground].							

I. Males—							
Foremen and mates							
Miners							
Skilled labour not included above.							
Unskilled labour not included above.							
Total (males) ..							
II. Females							
C. *Surface* (i.e., not in the workings of the mine, including all subordinate officials and persons employed on sidings, loading wharves, private railways and surface tramways and also in carting).							
I. Males—							
Clerical and supervising staff (excluding the supervising staff).							
Skilled labour							
Unskilled labour							
Total (males) ..							
II. Females							

Note.—(1) Where persons are employed in both underground and open workings, the figures relating to them should be included under section A.
(2) Where workmen are paid through contractors, the sums entered in column (7) should be the sums paid by the contractors to the workmen so far as these can be ascertained.

FORM III.

(See Regulation 3.)

Accidents and Prosecutions.

Number of separate accidents *reported during the year.			Number of persons		Number of prosecutions instituted by the management, with the sections and rules under which the prosecutions were instituted.	Number of persons convicted, with the sections and rules under which the convictions were obtained.
Fatal.	Serious.	Total.	Killed.	Seriously injured.		
(1)	(2)	(3)	(4)	(5)	(6)	(7)

* Accidents which were reported as serious accidents but resulted fatally, should be entered as fatal accidents.

FORM IV.

(See Regulation 3.)

Epidemic Diseases.

Disease.†	Date of appearance.	Date of disappearance.	Number of cases.	Number of deaths.
Cholera				
Plague				
Smallpox				
Influenza				

† Figures for any other specified disease which has been epidemic at the mine should be entered in this form.

Form V.

(See Regulation 3.)

(For mines other than mica mines.)

Type and aggregate horse-power of electrical apparatus.

1.—System of supply (whether continuous current or alternating current)—	
Voltage of supply	
Periodicity	
Source of supply	
2.—Voltage at which current is used for—	
Lighting	
Power	
3.—*Aggregate horse-power of motors installed on surface for*—	
Winding	
Ventilation	
Haulage	
Ore dressing	
Miscellaneous	
Total horse-power ...	
4.—Aggregate horse-power of *motors installed under ground for*—	
Haulage	
Pumping	
Portable machinery	
Miscellaneous	
Total horse-power ..	
5.—Total horse-power (addition of 3 and 4) ...	

FORM VI.

(See Regulation 3.)

Particulars of Exlposives

EXPLOSIVES.

Name of explosive.	Quantity used in lbs.	Number of detonators used.

FORM VII.

(See Regulation 3.)

(For Mica mines only.)

Output for year-ending on the 31st December 19 .

Total amount of dressed mica raised.	Total amount of dressed mica consigned.	Total value at the mine of mica consigned. ("Value" means and should be calculated upon actual or estimated selling price at the mine. Any charges incurred in transporting the mica outside the mine should not be included.)
(1)	(2)	(3)
Cwts. ... ... Lbs.	Cwts. ... ... Lbs.	

Signature of Owner, Agent or Manager ____________

(If the form is signed by Managing Agents the words "for owner" should be added.)

Date of signature ____________

FORM VIII.

(See Regulation 3.)

(For all-mines except Mica mines.)

Output for year ending on the 31st December 19

Name of mineral raised and metal (if any) extracted.	Total amount of *mineral* raised. The figures should be stated— (*a*) in the case of gem-stones, in carats; (*b*) in the case of alum, amber, asbestos, graphite, jadestone steatite, tin-ore, tungstan-ore, in cwts.; or where the circumstances require greater particularisation in order to give an accurate estimate of small outputs, in cwts. and lbs. Output of radio-active minerals and rare minerals such as molybdenite, monazite, pitchblende, samarskite, tantalite, triplite, should be returned in cwts. and lbs.; (*c*) in the case of clay, limestone, magnesite, marble, phosphatic rock, salt, slate, and other stone, and all *metalliferous* ores except those referred to in (*b*), in tons.	Total value at the mine of mineral raised. ("Value" means and should be calculated upon actual or estimated *selling price* at the mine.) Any charges incurred in transporting the mineral outside the mine property should not be included.	Quantity of metal or metals extracted at the mine. Each metal should be shown *separately* :— (*a*) in the case of gold, silver and other precious metals, in Troy ounces; (*b*) in the case of tin, in cwts. and fractions of cwts.; (*c*) in the case of other metals, in tons and fractions of tons.	Value of metal or metals extracted at the mine. The value of each metal should be shown separately.
(1)	(2)	(3)	(4)	(5)
Total ..				

Signature of Owner, Agent or Manager__________

(If the form is signed by a Managing Agent the words "For owner" should be added.)

Date of signature__________

Form IX.

(See Regulation 13.)

Notice of Accident.

From—

To—The CHIEF INSPECTOR of MINES,

(Through the $\frac{\text{District}}{\text{Subdivisional}}$ Magistrate of

Dated *19*

Sir,

I have the honour to furnish the following particulars of
- a fatal accident
- a serious accident
- an accidental explosion or ignition
- an outbreak of fire
- an irruption of water

which has occurred at the

Mine :—

1. Situation of the mine. (Village, Station, District, Province.)	
2. Mineral worked	
3. Name and Postal address of owner	

4. Name and sex of persons.		Age.	Occupation.
Killed.	Injured.		

5. Date and hour of the occurrence	
6. Place of the occurrence	
7. Cause and description	
8. Classification of accident *	
9. Nature of injury, and if fatal, cause of death ..	

I have the honour to be,

Sir,

Your most obedient servant,

Owner.

Agent.

Manager.

* Under one or other of the following heads, namely :—
(1) Explosions and ignitions of fire damp ; (2) falls of roof ; (3) falls of side ; (4) in shafts (overwinding) ; (5) in shafts (ropes and chains breaking) ; (6) in shafts (while ascending or descending by machinery) ; (7) in shafts (falling down shaft) ; (8) in shafts (things falling down shaft); (9) in shafts (miscellaneous); (10) suffocation by gases ; (11) by explosives ; (12) irruptions of water ; (13) haulage ; (14) by underground machinery ; (15) sundries underground ; (16) by surface machinery ; (17) boilers or pipes bursting ; (18) on surface railways or tramways belonging to the mine ; (19) by electricity ; (20) miscellaneous on the surface.

CHAPTER XII.—SUPPLEMENTARY INSTRUCTIONS REGARDING THE PREPARATION AND SUBMISSION OF RETURNS AND REVIEWS.

An annual report on the working of the Indian Mines Act IV of 1923, for the Calendar year, is due to the Government of India on the 15th June of each year. The owner, agent or manager of every mine other than a coal mine will prepare in duplicate the annual returns relating to output and labour in the prescribed forms and forward one copy of the statements direct to the Chief Inspector of Mines in India and the other copy to the District Magistrate not later than the 21st January in each year. The District Magistrate should prepare a complete report dealing with the subjects mentioned in paragraph 2 below and submit it in duplicate to the Director of Industries by the 1st March forwarding at the same time a triplicate copy to the Chief Inspector of Mines. The Chief Inspector of Mines will be solely responsible for statistics and the District Magistrate should only append to his report any figures or tables that he may regard as necessary to illustrate matters discussed in the report. District Magistrates in whose districts no mining operations are carried on, should submit a nil return to the Director of Industries by the prescribed date. The Director of Industries will review the District Magistrates' reports under all heads and submit his report to the Local Government by the 1st April. The Local Government will forward their report to the Chief Inspector of Mines not later than the 15th April for transmission to the Government of India.

2. The District Magistrate's report should deal with the following subjects, in so far as these relate to mines and the mining areas :—

(1) The supply of labour;
(2) Wages;
(3) Relations between labour and employers;
(4) The general health of the labourers;
(5) Sanitation and housing accommodation;
(6) Prices of food-stuffs and clothing;
(7) Education;

(8) Liquor consumption and its control;
(9) Crime and moral conditions;
(10) Accidents;
(11) Prosecutions for offences;
(12) Output of minerals; and
(13) Inspection of mines.

G.O. Mis. No. 2198, Development, dated 22nd December 1927.
B.P. Mis. No. 199, dated 19th January 1928.

3. Besides the annual report on the working of the Mines Act, the Government of India have prescribed for submission by Local Governments two other mining returns—

(1) Annual return of mineral productions in mines which do not come under the provisions of the Indian Mines Act to be submitted to Government by the Director of Industries.

(2) Statement of applications for prospecting licence and mining leases disposed of during the year to be submitted to Government by the Board of Revenue.

(1) The amendment of the definition of the term "mine" in Act IV of 1923 has removed the restriction under the old Act which excluded pits or excavations less than 20 feet deep, and mine owners will submit returns in respect of practically all minerals since all mines and quarries will be "Act mines" except those specified in Government of India (Industries and Labour) Notification No. M/1051, dated 26th July 1924. The excepted mines so far as Madras is concerned are those of kankar, murum, laterite, gravel, sand, clay, fire clay, kaolin (china clay), stone, earth, fuller's earth, bauxite, slate and limestone provided that the depth of the excavation measured from the level of the adjacent ground nowhere exceeds 20 feet and that not more than 50 persons are employed at any one time in or about the mine. For the preparation of this return in respect of non-Act mines, District Magistrates are solely responsible and they should arrange that particulars in respect of minerals worked in forest areas are obtained from District Forest Officers and incorporated in the district return. In other areas the statistics are collected by village officers and are submitted to the taluk office. These are consolidated in the Collector's office for the whole district in the form appended and are eventually forwarded to the Director of Industries by the 15th March in each year. The consolidated return should contain a certificate to the

effect that the particulars of mines regulated by the Indian Mines Act have been excluded from the return. The Director will prepare a consolidated return for the whole province and forward it to the Director, Geological Survey of India, by the 15th April, submitting at the same time a copy of the report to the Local Government.

(2) *Statement of applications for prospecting licences and for mining leases disposed of during the year.*—Collectors should submit this return to the Board of Revenue (Land Revenue and Settlement) by the 31st January succeeding each year in the form printed in Appendix XIII in Chapter VIII and the Board will submit to Government for transmission to the Government of India, a consolidated return for the whole Presidency by the end of February—vide Note to Rule 29 of the Government of India Rules in Chapter VI.

Statement showing the production of minerals in mines which do not come under the provisions of the Indian Mines Act in the village of taluk during the calendar year.

Name or number of mine or excavation or pit.	Output during 19			Average number of persons employed daily.			
	Name of mineral worked.	Total amount of mineral raised.	Total value of mineral at the mine.	Men.	Women.	Children.	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)

N.B.—The average number of persons employed daily should be obtained by dividing the aggregate number of daily attendances (permanent and temporary) by the number of working days.

INDEX.

ABBREVIATIONS.

r. = rule. p.l. = prospecting licence.
pt. = part. sch. = schedule.
cl. = clause. appx = appendix.
m.l. = mining lease. ch. = chapter.

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